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Is U.S. Cropland Really Vanishing?

by Jean van der Tak

Contrary to impressions created by some recent press reports, the United States "is in no danger of running out of food because of disappearing farmland," according to agricultural economist Michael Brewer in PRB's *Bulletin* for December, "The Changing U.S. Farmland Scene."

Brewer was research director of the National Agricultural Lands Study. In its final report issued last January at the close of the Carter administration, the 18-month federal study declared that "the United States has been converting agricultural land to nonagricultural uses at the rate of about three million acres per year."

Some stories reporting this finding were headlined "vanishing farmland" and left the impression that, as a result, the price of food was bound to skyrocket and that U.S. agricultural exports – on which the world has come to depend – would have to be sharply curtailed in the coming decades. But most of the 3-million figure is land that "never was and never could be used for crop production," Brewer points out.

In 1977, according to Soil Conservation Service statistics – the latest available – out of 1.3 billion acres of nonfederal agricultural land, the U.S. had 413 million acres of "current" cropland, plus 127 million acres of other land with "high" or "medium" potential for conversion to cropland, Brewer reports. Between 1967 and 1975 – the time frame used by the National Agricultural Lands Study – the amount of this type of land converted to "urban, built-up, transportation, and water uses" was 875,000 acres per year. Even if this conversion rate continues, the U.S. cropland base in the year 2000 would still add up to some 520 million acres, Brewer points out – an ample margin over 484 million which is the highest of current projections of the acreage needed to meet domestic and international demands on American croplands at the end of the century.

Pressures on Cropland Likely to Ease

Moreover, Brewer notes, several factors are likely to slow the conversion of agricultural land to nonagricultural uses and ease current pressures on U.S. cropland.

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In 1981, Slavery Continues

Slavery still exists.

Usually thought of as an intolerable institution eradicated in the enlightened 19th century, slavery in various forms is estimated today to include millions of people in many countries around the world, who are chattel slaves (slaves who can be bought and sold), or work under conditions of forced labor, child exploitation, or debt bondage.

Slavery is studied by the UN Human Rights Commission. The nonprofit British organization, the Anti-Slavery Society for the Protection of Human Rights, gathers, investigates, and publicizes instances of slavery.

Numbers are not easy to come by. But according to the Anti-Slavery Society, Mauritania is the likely candidate for the country with the most slave-dependent economy. Some 100,000 chattel slaves are reported to exist there (in a country with a population of 1.7 million), mostly blacks in a country where the white Moors form the elite class.

Here slaves are forced to work without compensation, for their masters and cannot "quit" or move freely. Their children also become the property of their master.

Mauritania's constitution theoretically guarantees equality of rights. But that country's Minister of Foreign Affairs has acknowledged that slavery "still exists" there and said that "it will take a long process before we are finally rid of this hateful practice."

Other countries believed to practice chattel slavery to some extent are Mali, Niger, and Saudi Arabia.

Chattel slavery, however, is something of an anachronism in the 20th century. More modern forms of involuntary servitude include forced labor, such as happened in 1980 in Ethiopia, when some 45,000 "volunteers" were rounded up off the streets by government soldiers for forced labor without compensation on a government farm.

Another area of forced labor is exploitation of children. While figures on child labor are hard to come by, they are surely in excess of the 53 million (or 3.8 percent) of children under 15 in the developing world, estimated in a 1979 International Labor Organization report. For the most part these are children in full-time jobs not attending school. (Sometimes more than full-time; child hotel workers in Chile and India are reported to work 11 and 12 hour days.) In many cases, child workers, exploited or not, are working in agriculture, services, or industry to supply their family with additional income. But it is also not uncommon in many parts of the developing world for parents (as the ILO study puts it) "to give up one or more of their children from the age of 8 or 9—particularly for work as farmhands or shepherds—receiving in return a small loan or payment in cash or kind and renouncing custody of the children and the exercise of parental authority; many of these children work in conditions of semi-slavery."

And possibly the most widespread cause of forced labor, and slavery in another guise, is debt bondage. This is where a debtor's pledge (typically, by an agricultural worker) to pay off a debt with his personal services ends up leaving him permanently in debt, and permanently obliged to provide his personal services, as well as his children's. The debt is a "legal" trap, in other words. A 1978 survey estimated that there were 3 million farmers in such debt bondage in India alone.

Sunset over the Sunbelt Boom?

U.S. Internal Migration in for Changes, Study Says

Migration to the Sunbelt was one of the major U.S. population trends during the 1970s. During that decade the population of the South and West grew by 21.4 percent, while that of the North and East increased by only 2.1 percent. It's a general article of faith that the U.S. population is following the sun, and this phenomenon is sometimes pictured as not only a social and economic process, but a political response, as people desert the big-government, highly taxed areas of the country for the more conservative, laissez-faire Sunbelt "frontier." (This picture is not always accurate.)

Now there are signs that while the rush to the Sunbelt will continue, it is starting to assume different forms and will fan out to different parts of the region than it did during the 1970s.

A new study from the Joint Center for Urban Studies of MIT and Harvard University projects that during the 1980s the West and South will grow by 27 percent, while the rest of the country stands pat. But, the Center says, growth in two of the "hot spots" – Florida and the Pacific Coast – will slow markedly, with the bulk of the growth taking place in the mountain States, and in other parts of the Sunbelt.

What's the Rush?

The rush to the Sunbelt has been stimulated by many social and economic differences between the Sunbelt and the so-called Frost Belt. The "push" factors in the North have been unemployment caused by economic distress and aging industries; high cost of living; taxes. The "pull" factors in the South and West have been low business costs; relatively low wages; the rise of new types of industries, e.g., energy; and probably ambience and climate.

Some critics have charged that federal government policies – particularly those cutting aid to state social services – have contributed to the migration. Criticism was vociferous when a presidential commission argued, in the spring of 1981, that since the migratory shift was seemingly inevitable, the federal government should help this transition along rather than trying to buck it. President Reagan later repudiated this active role in internal migration; from comments he has made since, however, he apparently feels that Washington should remain at least neutral, and that people dissatisfied with a state's social or economic problems can "vote with their feet" by migrating to another state.

As the Sunbelt has boomed, however, it has suffered growing pains (e.g., sudden urban congestion and problems in providing services) and is, according to reports, becoming all too much like the rest of the country. Attractions that used to lure newcomers, such as the relatively low cost of living and readily available employment, no longer pull as strongly.

In short, the attraction of the Sunbelt was its cheapness, and that attraction may have peaked.

Jobs, But Not for All?

Further, the employment situation is not so simple. Although the Sunbelt may be a land of opportunity, it is not necessarily a land of labor-intensive opportunity, in the way that the U.S., especially the Northeast and North Central areas, was during the heyday of immigration at the turn of the century. Oil is not like auto manufacture. So when the Sunbelt economy badly needed skilled workers and professionals during the 1970s, it was able to attract them with lucrative incentives, and the migration was on ("pull"). But the latest wave of migrants is unskilled workers faced with unemployment problems ("push"). They are able to find jobs, but frequently at salaries far below what they were earning in the North, and they are finding it as hard to make ends meet in the Sunbelt as in the Frost Belt. As an Ohio economist told the *Wall Street Journal*: "A lot of blue collar workers go to the Sunbelt thinking it's going to be the land of milk and honey. They're appalled to find they can only get $5 or $6 an hour when they've been earning $10 or $15 in their Northern union jobs . . ."

The Future

With these trends in mind, the Joint Center projects decelerating population and economic growth in the South Atlantic region (North Carolina, Georgia, and Florida) and the Pacific region (particularly California). The reasons for

Projected Components of Growth by Region, 1980-1990: From the Census Bureau and from the Joint Center for Urban Studies

	Census II-B Projections 1980–1990[a]				(Nos. in 000s)		*Joint Center Projections 1980–1990*					
	Total Growth		*Natural Increase*		*Net Migration*		*Total Growth*		*Natural Increase*		*Net Migration*	
Region	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*
New England	8.3	1039	6.8	849	1.5	190	7.3	901	5.5	679	1.8	222
East North Central	4.5	1868	8.5	3510	−4.0	1642	−0.4	−166	6.3	2625	−6.7	−2791
West North Central	6.3	1077	7.4	1259	−1.1	−182	10.6	1821	6.7	1151	3.9	670
Mid-Atlantic	2.5	918	5.5	2047	−3.0	−1129	−7.6	−2795	3.5	1288	−11.1	−4083
South Atlantic	16.9	6188	7.2	2641	9.7	3547	9.6	3547	3.8	1404	5.8	2143
East South Central	10.0	1416	7.7	1092	2.4	324	24.5	3593	8.7	1276	15.8	23.7
West South Central	13.7	3051	9.9	2192	3.8	859	25.3	6007	10.0	2374	15.3	3633
Mountain	20.7	2220	12.0	1281	8.7	939	31.9	3627	12.5	1421	19.4	2206
Pacific	12.0	3572	8.5	2531	3.5	1041	16.4	5215	7.6	2417	8.8	2798
Total U.S.	9.6	21,353	7.9	17,405	1.8	3,948	9.6	21,750	6.5	14,635	3.1	7,115

Source. Regional Diversity: Growth in the United States, 1960-1990, by Gregory Jackson et al. Boston: Auburn House, 1981, p. 62. Reproduced by permission.

Note. Census II-B projections are based on Census Bureau median projections from a projected 1980 population base, and using internal migration rates that were in effect 1976-1980. The Joint Center projections are based on the 1980 Census count.

Continued from preceding page

assuming a decline in Florida's growth: sharply declining birth rate, a lessening of the trend for retirees to settle in Florida (they now are branching out to other retirement states, such as Arkansas). The reasons for the projected Pacific region decline: high wages, incredible housing prices, water shortages, ambivalence about development.

Expected to increase in growth are New England and the West North Central region. New England's economy has changed dramatically with high technology industries and a well-educated labor force. The southern New England states may lose population, but the region as a whole should grow, says the Joint Center, and prosper during the 1980s. (Thereafter, due to low fertility, the region's population may age and grow more slowly.)

During the 1980s, the West North Central states may do what the Sunbelt did during the 1970s; i.e., relatively low wages and costs may keep and attract industries, and make it a growth region. People may be more likely to migrate there and be less likely to migrate out.

The Joint Center sees no such resurgence for the Mid-Atlantic region (New York, Pennsylvania, New Jersey) and the East North Central states, where aged industries will continue to age. Population and economic out-migration is expected to continue out of the region during the 1980s.

There seems to be a certain "leapfrog" effect, as the less developed regions, unhandicapped by a successful but ultimately stodgy economic infrastructure, are able to leap ahead of their "elder," more developed regions. (Just as Japanese auto companies, one of which is actually based in Hiroshima, Japan, can more than compete with older, more established U.S. automakers.)

Yet it is also likely that no region can boom forever. And eventually, the discrepancy between one U.S. region and another may tend to even out, as restless business and population keep moving in search of more favorable conditions—a search that could end up in something approaching national equilibrium. ☐

1985 Mini-Census Cancelled

The mid-decade U.S. census is off.

The Census Bureau has decided not to conduct the 1985 mini-census. While Congress, in 1976, called for such a census, in subsequent years it failed to provide funds to begin planning and preparing such a census, and it is now too late. While the 1980 Census cost over $1 billion, the mid-decade one would have been much less extensive and cost less than $100 million, according to the Bureau.

Meanwhile, the Bureau is falling behind in the publication of 1980 Census results. The results from the "long form," originally to be published in mid-1982, are not slated to come out in spring 1983, and some publications, notably the breakdown of the census by Zip code, have been cancelled. At present, the Bureau, along with the rest of Washington, is waiting to hear how it will fare in the latest round of FY 1982 budget cuts; the New York Times reports that Census Bureau Director Bruce K. Chapman is hopeful that the cut will be no more than 4 or 5 percent. ☐

Boatlift Refugees Still a Factor

The cost of detaining the approximately 3,200 Cuban and Haitian refugees still detained from the 1980 boatlift is expected to run to some $150 million after two years of custody.

Most are afflicted with mental problems or have some other reason why they cannot be readily placed in society.

Part of the reason for the high cost is the stopgap, temporary nature of the detention, with refugees being shunted from one newly renovated facility to another. Indicative of the refugee situation is the Reagan administration's proposal to build a permanent national refugee facility (included in the $150 million figure quoted above), that could house up to 5,000 refugees and illegal aliens. But no site has yet been selected. ☐

Tougher Immigration Rules Proposed

The Reagan administration has proposed a sweeping series of immigration bills that would make it easier for the U.S. government to control the present influx of undocumented aliens. Among the proposals: powers to permit the President to declare an "immigration emergency" and seal U.S. points of entry to incoming ships, while U.S. armed forces would be authorized to stop ships on the high seas suspected of carrying illegals. (Other countries would agree in advance to seizures of ships sailing under their flags, so such interceptions would not be international incidents.)

Other proposals would make deportations by the Immigration and Naturalization Service less subject to review by federal courts. And the thrust of the Reagan administration's bills is, in Attorney General William French Smith's words, "to take whatever steps are necessary to prevent a recurrence" of a mass immigration like the 1980 Cuban boatlift, an event which evidently traumatized the U.S. government and made it sensitive to the kinds of mass immigrations that are possible in the late 20th century. ☐

Demography in China: from Zero to Now. A reprint of a 29-page article to appear in the Winter 1981 issue of *Population Index*, this publication presents an up-to-date survey of recent developments in the study of demography and population in the People's Republic of China. It includes information about the major Chinese population institutes and their principal personnel and an invaluable list of some 200 bibliographic references to books and articles published in China since the reemergence of population studies in 1977. Prepared by H. Yuan Tien of Ohio State University, currently Visiting Scholar at the Population Reference Bureau, *Demography in China* is available from PRB for $3.00 per copy. Send order with check (made out to Population Reference Bureau) to Population Reference Bureau, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

'Pro Growth' Returns with 'The Ultimate Resource'

by Peters D. Willson

Since the 1980 elections, the new economic catchword in political circles is "supply side economics" Technically, it refers to a strategy of substantial federal tax and spending reductions to boost private investment in the economy, promising a surge in productivity and income that will enable the government actually to take in more revenues than before even with the new, lower tax rates. However, in more general conversation, supply side economics is a new tag for an old idea which fell into some disrepute in the late 1960s and 1970s; namely, that "growth," particularly economic growth, is unquestionably good for the nation.

In the U.S. Congress, Rep. Jack Kemp (R-N.Y.) is the disciple of supply side economics, preaching its virtues and demonstrating its usefulness in critiquing government programs with the kind of special authority enjoyed by an outsider who suddenly finds himself in the political mainstream of Washington these days. Kemp is also the ranking minority member of a House appropriations subcommittee which handles foreign aid appropriations. In a conversation earlier this year, his aide Joe Rogers gave me a brief lesson on how "pro-growth" philosophy works in evaluating the U.S. commitment to international population and family planning assistance. "The Reagan administration," Rogers said, "is a pro-growth administration." Family planning, particularly U.S. foreign aid for international family planning and population programs, he added, does not contribute to economic growth. If a country such as Mexico has a population problem, he explained, it is too little, not too much, population growth.

Rogers' comments only touched upon a "pro-growth" view of population change which has not yet been fully articulated among Washington politicians. But Julian Simon, professor of economics and business administration at the University of Illinois, has written a new book which spells it out in detail: *The Ultimate Resource*, published by Princeton University Press.

The key to Simon's vision of the future is not conservation but *continued* population growth. "In the long run, the most important economic effect of population size and growth is the contribution of additional people to our stock of useful knowledge. And this contribution is large enough in the long run to overcome all the costs of population growth." (p. 196)

"Population growth," he says, "spurs the adoption of existing technology as well as the invention of new technology." (p. 199) This leads him to conclude, after citing a computer analysis to back up his argument, that "although additional children cause additional costs in the short run, a moderate rate of population growth in LDC's (less developed countries) is more likely to lead to a higher standard of living in the long run than either zero population growth or a high rate of population growth." (p. 286)

Simon does not disagree that there is a "population problem," which he recognizes early on. But, he says, its costs are all short term; in the "long run" it is not a problem but a boon. What is a serious problem, in his opinion, are the people, organizations, and governments, who, convinced there is a population problem, advocate "population control" as its solution. Among the several organizations he chastizes, he singles out for special denunciation Planned Parenthood-World Population (PP/WP), the international projects branch of the Planned Parenthood Federation of America. He stopped his support, he says, when the agency's fundraising appeals began to talk about the population crisis instead of its traditional message of children by choice, not chance.

A 'Perfectly Timed' Book?

People long active in the movement to make family planning services universally available at home and abroad might be tempted simply to dismiss Simon's factual argument. I would urge otherwise. It is risky at best to ignore a book and a point of view whose time for public attention appears to have arrived. In a complimentary essay on the book in *The New York Times Book Review*, B. Bruce-Briggs crystalizes the emerging new "pro-growth" mood in some corners of the country today: "The 1970's have not demonstrated the physical limits to growth, rather the social limits to nongrowth. We have exhausted our tolerance for stagnation. In short run at least, the prospects are dismal for doommongers. *The Ultimate Resource* is perfectly timed."

A distinguished university press publisher and an endorsement in the nation's most prestigious book review are only the most obvious indications that *The Ultimate Resource* is likely to receive a favorable reception and broad circulation that only a few years ago might have seemed impossible. There are a number of other less visible but more compelling reasons why I believe this book is likely to be widely read and quoted:

- The intellectual times have changed; the limits-to-growth concept that shook people's attention only a decade ago was quickly assimilated into the popular world view. It has become part of the status quo. Nothing more clearly illustrated this than the election of Jimmy Carter, whose presidency in some respects politically embodied the limits to growth outlook and whose defeat in re-election has thrown it into doubt. Today, on the op-ed pages of newspapers, it is the pro-growth viewpoint which is treated as novel and provocative. It challenges the intellectual status quo. Simon's book will fill a commentary gap which in the past has been covered largely by Ben Wattenberg and Herman Kahn.

- The nation's elected leaders have changed, too. Much of the substantive debate over population growth and resources occurred in Washington before 1972, in the population hearings of Senator Ernest Gruening (D-Alaska) in the 1960s and the work of the President's Commission of Population Growth and the American Future in 1971 and 1972. But there is now a new generation of Members of Congress who, by virtue of their ideology, their relative inexperience, and the example set by the new administration, will have no reason to question Simon's thesis. Quite the contrary, for many of them, *The Ultimate Resource* will supply facts and figures to round out their instinctive challenge to the Carter administration's dedication to conservation and resource management.

- Simon himself supports legal abortion and public funding of family planning services for the purpose of the right to choose. But *The Ultimate Resource* does more than just give opponents of abortion a resource philosophy and critique of

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population organizations which will mesh well with their strategy of expanding the attack on abortion rights to family planning, sex education, and women's rights. It expresses a personal and moral philosophy that will ring familiar to the advocates of "life" who have worked in the political movement against legal abortion and the ERA.

In a statement which echoes the view of conception and life of the right-to-life movement, Simon describes the reasons he once decided not to pursue the prospect of working on a U.S.-funded project intended to lower fertility in less-developed countries. "What business do I have trying to help arrange it that fewer human beings will be born, each one of whom might be a Mozart or a Michelangelo or an Einstein – or simply a joy to his or her family and community, and a person who will enjoy life?" (p.10)

Some Questions – and Answers

For all of these reasons, I think *The Ultimate Resource* deserves close attention – not just to be skimmed but to be studied critically and understood. We need to appreciate when facts and argument support his particular point, and when they do not.

Take for example Simon's assertion, quoted earlier, that public funds are being spent for population control at home and abroad apparently without the knowledge and approval of the public as a whole.

Is this true? There is no question that the international as well as domestic debate over family planning in the last 20 years has been driven at least in part by a fear of world population growth and a belief in the imperative of population control. But it also has been driven by deep concern for public health, women's rights, family well-being, and economic development. It is the combination of these concerns, powerfully voiced by private citizens in nations around the world as well as government leaders, which shaped U.S. policy on foreign aid to developing countries for population control.

- The "Foreign Assistance Act," in which Congress annually authorizes international population assistance. The law's definition of population growth in terms of "voluntary population planning" reflects the commitment of the United States, in repeated examinations of the need for population control, to efforts which build upon acceptance of access to family planning as a basic human right. The 1974 World Population Plan of Action, which the United States delegation to the United Nations' World Population Conference approved, states:

> All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so; [they also have] the responsibility in the exercise of this right to take into account the needs of their living and future children, and their responsibilities towards the community.

- Since then, the governments of 90 percent of the people living in developing nations have endorsed family planning as a matter of public policy. In addition, many are officially committed to reducing fertility. Yet most are still experiencing not the moderate population growth which Simon recommends but extremely rapid growth rates, with doubling times of only 20 to 30 years. Excluding the People's Republic of China, the developing nations now have a collective doubling time for their population growth of only 29 years. The World Fertility Survey reports that more than 30 percent of the women surveyed in 11 Asian and Latin American countries said their last birth was not wanted. Half of all women surveyed in 13 countries said they did not want any more children. An estimated 35 to 50 million abortions are performed annually. In the developing nations, nearly 700 million women are in their childbearing years. Most do not have access to family planning services, and their numbers will increase by more than 80 percent between 1975 and 2000.

- Today, requests from developing countries' governments for population assistance, addressed to both the world community as a whole and the United States in particular, far exceed funds available, according to the U.S. Agency for International Development. In 1979, parliamentarians, largely from developing countries, met in Sri Lanka at the International Conference of Parliamentarians on Population and Development and requested a doubling of international population assistance by 1984. This year, at the International Conference on Family Planning in the 80's in Indonesia, the delegates, again largely from developing nations, called for a tripling of population assistance.

- Over the years, the U.S. government, in granting foreign aid to meet this demand, has been fully consistent with American public opinion. In 1977, a Roper poll found that 73 percent disagreed with the position: "Don't do anything to slow population growth. Let nature take its course." And 87 percent agreed with the need to "Make birth control information and devices widely available at low cost."

Similar examination of the facts – both those Simon uses and those he does not – is required to assess his assertions about the diminishing scarcity of natural resources, the economic benefits of continued population growth, and the racism which he insinuates motivates U.S. funding for domestic family planning services. Just as the debates over population growth and resource depletion of the 1960s set the stage for the politics of public funding for international family planning, so debates over "supply side economics" and "growth" in the next few years could do the same for the 1980s. Rep. Kemp gave a hint of what may yet come when last June during an appropriations subcommittee markup of an amendment on population assistance, he asked his colleagues to think about the fact that "there is empirical evidence that as economic growth increases, population stabilizes. But," he said, "there is no correlation between reduced population growth and increased economic growth."

Be assured we will hear more of *The Ultimate Resource.* ☐

Peters D. Willson is an international assistant analyst at the Alan Guttmacher Institute.

A recent issue of the UN's *Population and Vital Statistics Report* listed a date of April 1, 1970, for a census of the Canton and Enderbury Islands in the Pacific. However, no census total is given. The reason? Footnote *#*152 tells us that "both islands were uninhibited [sic] at time of census."

Zelnik and Kantner Update on Teen Sexual Behavior

U.S. teenage sexual experience rose sharply during the 1970s. Teenage contraceptive use also increased, but so did their pregnancies, due to a shift toward less effective contraceptive methods.

These are some of the notable conclusions of the 1979 survey of teenage fertility-related behavior conducted by Melvin Zelnik and John F. Kantner of Johns Hopkins University. This survey updates their classic 1971 and 1976 surveys of teen sexual behavior; some of their main 1979 results (previously published in *Family Planning Perspectives*) are summarized below, together with some new findings recently announced by Zelnik and Kantner.

- Some 50 percent of U.S. teenage women (those aged 15-19) in metro areas have had premarital sexual intercourse. This is up from 30 percent in 1971 and 43 percent in 1976. The level for blacks has remained about the same in both 1976 and 1980–about 66 percent; the rise, rather, has come from an increase in white teenage sexual activity, from 38 to 47 percent.

- Premarital pregnancy among teenagers almost doubled during the past decade. Whereas in 1971 some 8.5 percent of all women 15-19 became pregnant before marriage (or were never married), in 1979 this figure had risen to 16.2 percent, or one out of eight. (Among those women who had ever had premarital intercourse, 32.5 percent became pregnant, up from 28.1 percent in 1971.) Of those pregnant women surveyed in 1979, some 82 percent had not wanted to get pregnant.

- Teenage women who became premaritally pregnant were much less likely to marry than a decade ago. Whereas in 1971 32.7 percent married, in 1979 this number had dropped to 15.5 percent.

- Less than half (49.4 percent) of unmarried pregnant teenagers in the 1979 survey resolved their pregnancy (assuming they remained unmarried, as a majority of them did) by having a live birth. Some 36.6 percent elected to have an induced abortion, while the remainder experienced a stillbirth or miscarriage.

- Contraceptive use among premaritally sexually active teenage women has increased somewhat, from 28.7 percent in 1976 to 34.2 percent in 1979. Half of all premarital pregnancies among teenage women occur to those who have never used contraceptives (34 percent of all sexually active women 15-19), 14 percent nonetheless became pregnant. This rate of pregnancy despite contraceptive use is perhaps due to a shift to less reliable contraceptive methods (e.g., condom, or withdrawal).

In addition Zelnik and Kantner's 1979 research has also produced some intriguing insights into adolescent sexuality, which they recently reported:

- The first sexual experience is most likely to take place in a home (*not* in a car, as is sometimes believed). Some 80 percent of the first sexual experiences in the 1979 study took place in a home–either one of the partners' or a friend's. And 80 percent of the time the partners had been dating each other or going steady prior to intercourse.

- 13 percent of teenagers found by the survey to be sexually active report having sex only once.

- Black teenagers who are sexually active have started sex an average of a year earlier than whites (at 15.5 years of age mean, as compared to 16.4 years). But sexually active white teenagers, once they start, turn out to be more sexually active than sexually active black teens, and to have more partners.

One of their findings is that teenage pregnancies are not as likely as before to result in marriage. If a premaritally pregnant teenage woman got married, she was overwhelmingly likely to carry the fetus to term. If, however, she chose not to marry, in 36 percent of the cases in the Zelnik-Kantner survey that had an outcome, she will have an induced abortion.

Consequently, Zelnik and Kantner report that while pregnancies have gone up, the decline in pregnancy-caused marriages and the increase in abortions have resulted in an illegitimacy rate that is slightly higher in 1979 than in 1971 for whites and is virtually unchanged for blacks. ☐

Christmas Comes To Populandia

Populandia sails into the 1981 Christmas season as the third most populous country in the World. INTERCOM's mythical mini-continent, which is not quite four years old, has, as of Dec. 25, a population of 288,952,145.

Since the last dispatch (appearing in the July 1981 INTERCOM), Populandia, increasing by 207,431 children every day, has surpassed the USSR (with approximately 268 million citizens), formerly the Number 3 country. Still ahead: China and India.

Populandia, it will be recalled, erupted out of the Pacific Ocean and on Jan. 1, 1978, began to serve as the repository of all the world's natural increase–the surplus of each day's births (estimated at 342,520) over each day's deaths (estimated at 135,089). After one year, it had grown from zero to some 73 million; after two years, it stood at 145 million. At the beginning of 1981, it reached 219,182,214.

One of the side effects of this inexorable increase is that Populandia is becoming the child headquarters of the world. About 60 percent of all children under 4 in the world now live in Populandia. Since 35 percent of the world's population is under 15, it turns out that something over 18 percent of the world's children (those under 15) now make the island their home.

While the world's population of children is steadily increasing (there are more than 6 percent more children in the world than there were five years ago), they are growing steadily more concentrated in Populandia. This makes one operation easier–the distribution of Christmas gifts. Santa and his colleagues, Father Christmas, Grandfather Frost et al., can distribute nearly one out of every five presents with one balmy Pacific stop. ☐

demographer's page

Carl Haub is research demographer at PRB.

The U.S. Hispanic Population: A Question of Definition

> "I am an American and something else. The 'else' is an ethnic Puerto Rican. And now I am confused with the new term Hispanic."
>
> *Edward Gonzales, Jr., Educator and Labor Organizer, New York Times, May 11, 1980*

by Carl Haub

In recent years, the term "Hispanic" has become increasingly frequent in government and academic publications, the media, and our daily conversations. The importance of Hispanics as an American minority is evident when we consider that 6 or 7 out of every 100 Americans identify themselves as Hispanics, according to the 1980 Census.[1] But while at first glance the meaning of the classification Hispanic may seem self-evident, even a casual inspection of just how the Hispanic population in the U.S. may be defined uncovers many unwelcome difficulties.

What is a Hispanic?

Clearly, the concept of Hispanic must be adequately defined before the population can be counted and statistics collected on its growth and characteristics. As a starting point, we might turn to Webster for a definition: *of or relating to the people, speech, or culture of Spain, Spain and Portugal, or Latin America.* The root of the work is Latin, *Hispania,* for the Iberian Peninsula. This dictionary definition certainly contains few surprises and would generally satisfy what most of us mean when we use the term Hispanic. However, when the time comes to actually count a population of persons under this term, a considerable number of obstacles are soon encountered.

It would be generally agreed that the Hispanic population in the U.S. consists primarily of Mexican Americans in the Southwest, Puerto Ricans in the New York area, Cubans in Florida as well as persons from other Spanish-speaking countries. But drawing sharp definitional boundaries around this population is truly another matter. Classification of persons according to any racial/ethnic taxonomy is a troublesome task by no means limited to the Hispanic minority. Ordinarily, the human race is divided into only three "races": white, black, and yellow.[2] Beyond this simple division, however, lie innumerable combinations of population groups. But so long as we are willing to accept the fact that the notions of race, nationality, ethnicity, ancestry, parentage, and heritage (there are others) will never submit to clear-cut definitions, we may continue to collect and analyze data on such groups that, while far from perfect, are at least useful.

In the U.S., a Hispanic can be defined as a person who can trace his or her ancestry to a Spanish-speaking country. (It should be noted that this definition excludes persons of Portuguese and Brazilian extraction, as does the Census Bureau's definition.) Obviously, the phrase "trace his or her ancestry" is the key here. For statistical purposes, should an immigrant from Argentina of Italian ancestry who is fluent in the Spanish language be considered a Hispanic? A Puerto Rican child in Manhattan whose parents were born in the U.S. and who normally speak English? A Spanish-speaking black from the Dominican Republic? An Indian from Ecuador? And what of their descendants and the offspring of ethnically mixed marriages? The point need not be belabored.

Growth of the U.S. Hispanic Population

In 1950, the Hispanic population of the U.S. was predominantly of Mexican-American origin and concentrated in the Southwest. The large postwar influx of Puerto Ricans was just beginning and Cubans would not arrive in large numbers until after the 1959 Revolution.

The publication of census data at the time reflected the popular perception of these groups as separate entities. Both in 1950 and 1960, special reports were published on Puerto Ricans and persons of Spanish surname, for example, but it is apparent that Hispanics were not often thought of as a single group.

That situation changed dramatically in 1970, when the question on Spanish origin was initiated. By 1970, Hispanics, who may have numbered 4 million in 1950, had grown to over 9 million and by 1980 had reached nearly 15 million. (The reason for the inexactness of the numbers used here is that the Census Bureau has tried a number of different methods to identify the population, none of which has ever been totally satisfactory.)

Definitions and Identification Methods

Essentially, there are two basic approaches to the identification of an ethnic group such as Hispanics. First, *objective* methods seek to identify group members by a characteristic which can be consistently replicated and is (hopefully) unchanging. For example, birth and parentage data have been used as a means of ethnic identification. This classification is based upon an objective fact: either the respondent and/or his parents were born in a "Spanish-speaking" country or they were not.

Obviously, there are many potential ambiguities with this system; persons can be of mixed parentage, adopted parents, or they may even be non-Hispanics

Comparison of Hispanic Population, According to Six Identifiers, United States and Selected Areas: April 1, 1970

Identifier	United States	Southwestern States[1]	Middle Atlantic States[2]	Florida	Balance of States
Spanish origin	9,072,602	5,008,556	1,749,363	405,036	1,909,647
Spanish surname	n.a	4,667,975	n.a.	n.a.	n.a.
Spanish language[3]	9,589,216	5,662,700	1,873,051	451,382	1,602,083
Spanish heritage[4]	9,294,509	6,188,362	1,052,682	451,382	1,602,083
Spanish language or surname	10,114,878	6,188,362	1,873,051	451,382	1,602,083
Spanish birth or parentage	5,241,892	2,321,642	1,738,802	336,961	844,487

n.a. = not applicable

1. Arizona, California, Colorado, New Mexico, and Texas.
2. New York, New Jersey, and Pennsylvania.
3. All persons of Spanish mother tongue and all other persons in families in which the head or wife reported Spanish mother tongue.
4. An identifier which combined the following: persons of Spanish language or surname in the five Southwestern states, persons of Puerto Rican birth or parentage in the three Middle Atlantic states, and persons of Spanish language in the remaining states and the District of Columbia.

Note: counts for the various identifiers will be identical, of course, for states when the definition is actually the same. For example, counts of Middle Atlantic "Spanish language" and "Spanish language or surname" are the same since Spanish surname was only coded in the five Southwestern states.

Source: See Reference 8, which was based upon official 1970 Census publications.

born in a Spanish-speaking country. Further, this question cannot go beyond the second generation since birthplace of grandparents is not asked and would probably have a very high rate of nonresponse and inaccurate responses if it were. Thus, a third generation Puerto Rican who actually maintains strong ties to the mother country would not be considered of Spanish descent.

Other objective methods can be based upon a characteristic such as a person's name. Although the compilation of a truly comprehensive and mutually exclusive list of ethnic surnames is a very difficult task, the Census Bureau has collected 12,497 Spanish surnames using a rather sophisticated methodology which takes into account the geographic distribution of surnames.[3] Names recorded on the Census forms can then be compared to the list and coded as Spanish or non-Spanish surname. This method has several drawbacks. For one, it cannot easily be used outside of five Southwestern states (Arizona, California, Colorado, New Mexico, and Texas) since, outside of those states, surnames common to both Hispanics and non-Hispanics such as Italians, French, Portuguese, and Filipinos are more frequent. The new list developed for 1980, however, has done much to improve on prior lists such as eliminating names such as Abel or Moran which do at times occur among Hispanics but are more typically German or Irish, respectively. Another difficulty with this system is that surnames change with marriage and some decision must be made as to the classification of children of mixed ethnic marriages; different systems have been used at different times.

Since objective methods of identifying Hispanics meet with only varying degrees of success, it would be logical enough to identify them via a *subjective* method, as is done on the Census question on race. In other words, perhaps the simplest way to find out if people are Hispanic is to ask them. This is precisely what the Census Bureau did in 1970 and, by so doing, created the Hispanic population statistically.*

For the first time, Hispanics were treated as a homogeneous group, not simply as Puerto Ricans in New York, Mexicans in the Southwest, etc. While this new classification tends to mask the fact that the distinct ethnic groups are geographically diverse and culturally dissimilar in many ways, publication of aggregated Hispanic data certainly facilitated researchers studying the socioeconomic status of the population.

The Spanish Origin Definition

Under the Spanish origin definition, the Hispanic population becomes self-defining. Thus, Census Bureau coding procedures do not decide whether or not a given respondent is Hispanic, the respondent does, both for himself and for any other household

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*Actually, the Spanish origin question was a virtual last-minute addition to the 1970 Census. Printing of the sample questionnaires by commercial contractors had begun in April 1969, but was halted in May so that the Spanish origin question could be inserted on the 5 percent sample form.[13]

Continued from preceding page

members on whose behalf he is filling out the form. Yet this rather straightforward method of counting Hispanics has its own drawbacks.

For one, there is the problem of respondent variability. Any question which asks an ethnic group to "stand up and be counted" will tend to enumerate somewhat different populations as that group's self-awareness shifts. There may, for example, be a tendency at present for Polish Americans to feel more sympathetic ties to their country of ancestry due to that country's current political situation. During preparation for the 1980 Census, there was an increased effort to improve the overall count and to publicize the Census in areas with large concentrations of minorities.[4] These publicity efforts may have increased Hispanic awareness of the importance of being counted in 1980.

The Spanish origin question itself was designed to eliminate much of the confusion caused by the many different ways of identifying Hispanics in the past; in addition, the question was to be asked of all households in the country, not a sample. The Census Bureau, after all, had an obvious interest not only in obtaining accurate responses to the question but in keeping nonresponse to a minimum in order to avoid an unusually heavy workload required to edit Census forms as respondents mailed them back. The design of any census or survey question can be a ticklish business with any number of problems arising, some of which cannot easily be foreseen.

During the 1970s, the content and format of the Spanish origin question was tested extensively by the Bureau in order to select a question which would result in the most valid and reliable possible responses. We may consider the question's performance in light of those two classic requirements of the researcher, *validity* and *reliability*.

Validity simply means that a question measures what it is supposed to measure. At least theoretically, the Spanish origin question cannot be other than valid since an individual should not be able to "mis-identify" on a self-identification type of question. But, in practical terms, there will still be persons who will misinterpret the intent of the question itself or the possible responses offered. This happened in the 1970 Census when some respondents in Mississippi and Illinois, for example, mistook the "Central or South American" category to mean Central or Southern U.S. and mistakenly identified themselves as Hispanics. Simply changing the form of the responses and the order in which they appear can have a large effect on the way in which respondents answer the questions.[5]

1970

b. Is this person's origin or descent— *(Fill one circle)*

○ **Mexican**	○ **Central or South American**
○ **Puerto Rican**	○ **Other Spanish**
○ **Cuban**	○ **No, none of these**

1980

7. Is this person of Spanish/Hispanic origin or descent?

Fill one circle.

○ No (not Spanish/Hispanic)
○ Yes, Mexican, Mexican-Amer., Chicano
○ Yes, Puerto Rican
○ Yes, Cuban
○ Yes, other Spanish/Hispanic

The Hispanic questions appearing on the 1970 and 1980 Census forms.

During the 1978 dress rehearsal Census of Richmond, it was found that nearly all of the "Mexican-American" category were not Hispanic and, when contacted by telephone, said that they had intended to identify themselves as "American." Many had made an "unsolicited alteration" to their census form by scratching out the "Mexican" part of the "Mexican-American" response and then filling that circle. This type of response causes many headaches in the processing of any machine-processed form such as the Census. Another type of difficulty is potential misclassification of the ethnic groups within Spanish origin. This may have happened in the case of Mexican Americans in the Southwest who trace their ancestry to Mexico proper over many generations and may no longer feel strong ties to the mother country, thinking of themselves as "Spanish-Americans."[6] In New Mexico and Colorado in 1970, the number of Spanish origin persons who said that they were of "Other Spanish" origin actually exceeded the number of "Mexicans" reported.[7]

Reliability, the requirement that a survey question obtain the same responses every time, may also not be fully satisfied by the definition. Changes in the self-perception of ethnic groups will probably exact some price in the consistency of the data. It is not difficult to visualize a situation in which a father reports Spanish origin for his children, but that the children wish to be identified as Americans when they fill out the Census form for themselves 10 years later and do not identify themselves as Hispanic. A series of Census Bureau evaluations of consistency in the reporting of Spanish origin leads to the conclusion that there is definite inconsistency even when the form of the question is not changed.[8]

In the accompanying table, the 1970 Census counts of the Hispanic population are shown so that the performance of the different methods used in the past can be compared. The first four identifiers are based on a single Census or coding procedure while the remaining two are composites which allow identification via more than one Census item. If larger is "better," the Spanish origin identifier with "only" 9.1 million certainly appears open to criticism. Yet a 1971 Census Bureau test of the performance of an objective identifier indicated that one in three of the persons interviewed who had Spanish surnames did not feel that they were of Spanish origin.[9] Does, then, an objective identifier such as Spanish language or surname "force" unwitting respondents into inappropriate ethnic groups?

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Coming to Grips with the Problem

Analyzing data for ethnic groups will continue to present obstacles to researchers. For example, given that a truly consistent series of population data for Hispanics could be developed for the U.S. and individual states and cities, it would seem that all problems would be solved. But an epidemiologist, armed with health data on Hispanics in his city will be faced with many of the old problems. What population are the health data drawn from? How were they defined? Can reliable rates be constructed?

The situation will likely improve with time. In June 1976, the passage of Public Law 94-311 determined that the government would, as a matter of policy, collect, analyze, and publish data on the Hispanic population.[10] One result of the law is that a Hispanic identifier has been added to the birth and death certificates of many states and the first publication of Hispanic fertility estimates from that system has been released.[11]

Undoubtedly, there will be continued controversy on the size of the Hispanic population in the U.S. both legally resident and undocumented. But, in the meantime, there is a growing body of data available which can shed much light on the status of the Hispanic population. It may be that the 1980 Census performed quite well in its enumeration of Hispanics; the larger count (14.6 million) than what had been expected from earlier Census Bureau estimates (13.2 million),[12] suggests that it may. Different methods of estimating the population, including those based upon the different Census questions related to ethnicity, may produce different estimates of the size of the population. But the body of Census data forthcoming on the self-identified Spanish origin population represents a unique opportunity to study the population down to small geographic units. Researchers can, and should, keep the definitional problems of the data in mind when analyzing census and Current Population Survey results.

Since we are virtually all "hyphenated Americans," the simplest definition of ancestry, self-identification, may yet prove to be the most appropriate. Are you a Hispanic? You probably are if you say you are. ☐

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One Out of Six U.S. Babies Born Out of Wedlock

One of every six U.S. babies is born out of wedlock, 50 percent more than in 1970. In 1979, the most recent year for reliable statistics, 597,800 babies were born to unmarried women, amounting to about 17 percent of all births. In 1970, 398,700 babies, 10.7 percent of all births, were in that category.

According to the National Center for Health Statistics, figures show that a majority of black babies, 55 percent in 1979, as opposed to 38 percent in 1970, were born out of wedlock. But the percentage increase for whites is even more pronounced; the number of illegitimate babies rose from 4.7 percent in 1970 to 9.4 percent in 1979. Twenty-nine percent of births to white teenagers and 83 percent of births to black teenagers occurred out of wedlock in 1970.

These high rates for teenagers reflect the growing acceptability of unmarried mothers and their babies. The same is true for all out of wedlock births, generally considered to be due to a more relaxed social attitude toward the keeping of out of wedlock children. In addition, there are more women of childbearing age and because they are waiting until they are older to marry, more are unmarried.

Vanishing U.S. Cropland?

Continued from page 1

One is reduced need for housing. During the 1970s some 4 million more people moved into rural areas than moved out of them, and for the first decade in 160 years population growth was higher in nonmetropolitan counties than in metropolitan areas. Over 40 percent of housing constructed during the decade was built on rural land as rapid job growth in rural areas and better roads and more fuel-efficient cars enabled younger people "to act upon their preferences for rural and small-town life" and larger pensions allowed many retirees to move where they wanted to. Many of these new ruralists settled in relatively cheap "modular" and mobile homes on unsewered lots well out in the open countryside, Brewer reports. To meet county sanitary regulations, these lots require more land than homes in conventional sewered housing developments. The continuing movement of people from the North to the less densely populated West and South also encouraged more land-consuming settlement patterns, Brewer says.

Rural areas may continue to gain more residents than they lose during the 1980s and 1990s, he says, but the gain is likely to be less and the need for new housing thus reduced. That is because a nationwide slowdown in household growth is projected to begin in the late 1980s since people reaching the usual household-formation ages of the twenties will then come from the smaller cohorts born after the post-World War II baby boom and those reaching retirement age will be survivors of the "smallest of all cohorts"–people born in the 1930s.

New highways and reservoirs are also likely to preempt less agricultural land than they did in the 1960s, and 1970s, Brewer predicts. The interstate highway system (which consumes 41 acres of land per mile of road–including right-of-way, etc.) is now "virtually completed," he observes. And reservoir construction is likely to slow with most of the better sites for water development now being utilized and "the increasing success of environmental groups in blocking water projects."

Industries and businesses may continue to expand in rural areas, as they did rapidly in the 1970s, both taking over land directly and attracting newcomers who increase the pressure to convert farmland to nonfarm uses. But Brewer points out that this has "also helped maintain many small farms in farm use by providing jobs for farm families to supplement their income." Some 1.5 million families among the 6 million Americans living on farms (less than 3 percent of the mid-1981 total U.S. population of 230 million) now earn more than half their income off the farm, he reports.

Current record-high interest rates could dampen nonfarmers' eagerness to share in the bounty of soaring farm land values–another source of recent pressure on farmlands, Brewer observes. As much as a third of farmland sold in 1979, for example, probably went to nonfarmers. Farmland speculators often arrange to have their property farmed temporarily but are unlikely to invest in conservation measures to maintain the land's quality, Brewer says.

Exports are Principal Pressure

He feels that relief may even be possible from what is now "the principal pressure on U.S. farmland–the volume of farm commodities exported to other countries." From 43 million metric tons of the 1971 crop, grain exports tripled to 128 million tons of the 1980 crop and are projected to each 163 million tons–nearly 40 percent–of the bumper 1981 grain harvest, he reports. Some observers claim that soil erosion has accelerated dangerously as land has been farmed to capacity to meet the demand. Fueling the export drive has been the need to trade "bushels for barrels" to help meet the escalating cost of imported oil. In 1980, farm exports of $40.5 billion paid for more than half of American oil imports. Pressure from this source can be eased by national strategies to achieve, or approach, self-sufficiency in energy, Brewer says.

Energy self-sufficiency was a major goal of the Carter administration, he notes, which, among other strategies, targeted an increase in production of corn-based ethanol to 2 billion gallons a year by 1990, mixed in a one-to-nine blend with gasoline to produce gasohol. Although critics predicted "battles between the gas tank and the dinner plate," the net requirement of cropland to meet this goal would be just 5.5 million acres, Brewer observes. Moreover, "the higher corn prices that might result would help marginal corn producers to remain in farming."

Competition for water, rather than land, is agriculture's main threat from energy activities, Brewer says, especially in the arid West where irrigation is essential for any significant crop production. "Already competing with growing towns and industries for scarce water, many Western farmers now face the prospect of still more competition from production of synthetic fuels from tarsands and oil shale, in particular, which requires vast amounts of water."

Brewer sees increased crop yields as a chief means to relieving pressure on U.S. cropland, citing data which show wide gaps between average yields and the highest recorded yields. For example, the highest per-acre corn yield ever recorded in the U.S. was 3.9 times the average yield in 1975. This suggests that "crop yields can be increased even in the U.S. with existing technologies and certainly in developing countries where fertilizer usage and agricultural research are just beginning," he says.

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Now in Thai: PRB's *Population Handbook* has just been published in Thai by the Institute for Population and Social Research, at Mahidol University in Bangkok. The 104-page edition also provides Thai population statistics and gives important demographic terms in both Thai and English.

Outside of Thailand, the Thai *Population Handbook* is being distributed by PRB. It brings to nine the number of editions of the *Handbook* available: the original *Handbook* written by Arthur Haupt and Thomas T. Kane; a series of PRB international editions of the *Handbook* prepared by Carl Haub in English, Spanish, French, and Arabic; and special editions prepared overseas in French (Madagascar version); Dutch; and Bahasa Indonesian.

The original *Handbook*, the PRB international editions, and the Thai edition are available from PRB at $3.00 each (the Arabic *Handbook* is available free in limited quantities).

An Australian Future for Indochina Refugees?

by Stewart E. Fraser

By the beginning of March 1981 some 46,521 Indochinese refugees were recorded as having arrived "officially" in Australia. Of these some 85 percent come from Vietnam, 12 percent from Laos and 3 percent from Kampuchea.

The likelihood of further large numbers of refugees leaving Indochina in the near future, especially from Vietnam, is heightened by the recently announced policy of the Vietnamese government to release upwards of 30,000 political detainees, many of whom have been confined since 1975. A group of educators from La Trobe University visiting Vietnam last January saw first hand some of the difficult economic and social conditions which are prevailing and affecting residents especially in Hanoi and Ho Chi Minh City (formerly Saigon).

The worsening general economic situation, particularly the badly depressed agricultural sector, is due in part to severe weather difficulties, administrative mismanagement and a resistance to collectivization of rural holdings in the normally rich rice districts of the Mekong river. Another factor is the drain away from important development tasks within Vietnam of skilled manpower, both military and civil, into Kampuchea. However, the government is apparently now prepared to further modify its departure restrictions to permit more of those who wish to leave to travel under a so-called "orderly departure program" or ODP.

The gradual release of large numbers of former lower-level military and civilian detainees since early February 1981 will undoubtedly play a part in increasing the number of would-be departees who register with the authorities, particularly in major southern cities such as Cholon and Saigon (i.e., Ho Chi Minh City), Da Nang and Hue, My Tho and Can Tho. From discussions with officials in Ho Chi Minh City in January, it was apparent that most former detainees would have up to half a dozen close relatives who might be encouraged as families to make early plans for leaving Vietnam. Re-employment prospects are minimal for released detainees for both security and political reasons and also because of the generally depressed economic situation in many industries.

Officials at the offices of the United Nations High Commissioner for Refugees (UNHCR) located in Hanoi and Ho Chi Minh City are swamped with applications from those who wish to leave Vietnam. With little hope of immediate action, there are thousands of applications from those who have relatives in Australia.

It is not uncommon in Saigon for persons of either Chinese or Kinh (Vietnamese) origin to approach foreigners in the street (after ascertaining that they are not Russians) asking to have immigration application papers mailed from outside the country to European and North American destinations. It is virtually impossible for these to be safely transmitted via registered air mail or by any other secure postal services from within Vietnam.

While it is impossible to substantiate with any accuracy the number of refugees who wish to leave Vietnam and who have a close relative or a potential sponsor abroad in a country such as Australia, Canada or the United States, the figure is variously estimated by Vietnamese officials as between 200,000 to 400,000 persons. Already, over 70,000 persons have registered with UNHCR as potential departees for resettlement in the United States alone.

Excluding Kampucheans, most of whom were to return eventually to their homeland, there are still nearly 187,000 Indochinese refugees located in various camps throughout Southeast Asia. Of these, some 120,000 are in Thailand. But over 40,000 Vietnamese boat people are still in refugee camps located in Hong Kong (21,000) Malaysia (12,000) and Indonesia (8,500). The United States recently announced plans for the anticipated resettlement of nearly 70,000 Kampucheans from the various camps located inside the Thailand border in an attempt to drastically reduce the overall number held in these centers. Hopefully other "countries of resettlement" will make similar arrangements. However, until recently it had been anticipated by most of the governments directly concerned, namely the Thai, Vietnamese, and Kampuchean authorities, that the Kampucheans would eventually return home--as the political and military situation improved or at least stabilized. But the UNHCR and other interested international agencies such as the Red Cross are facing a situation where the short term prospects for homeland repatriation are still uncertain and minimal.

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He also predicts increasing success from state and local measures designed to protect farmland such as property tax relief for farmers and agricultural zoning, though most such activities began only in the 1970s and "are still too recent to judge how effective they will be."

Though longer-term projections are unreliable, Brewer feels that "with unflagging optimism we can suppose that the U.S. agricultural enterprise will endure beyond 2000. If higher prices signal that suitable land for growing crops may be in short supply, U.S. agriculture will pursue new ways of production that conserve land and increase land yields. Systematic investment in research to increase agricultural productivity as an integral part of national agricultural policy may be the best way to ensure that future demands on U.S. agriculture will be met," he concludes.

Formerly president of PRB and vice-president of Resources for the Future, Brewer has also taught at the University of California and George Washington University and written numerous monographs and articles on land, water, and other natural resource topics. ☐

Additional copies of his 39-page *Bulletin* (Vol. 36, No. 5), "The Changing U.S. Farmland Scene," may be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, at $3.00 per single copy; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 copies or more, $1.50 each. Colored 35 mm slides of the *Bulletin's* 12 tables and charts are available at $6.00 per set. Orders of $20 and under must be prepaid. A $1.00 handling charge should be included for orders mailed inside the U.S. For orders mailed ouside the U.S., add 25 percent to the cost of items ordered to cover postage and handling.

For Vietnam, the continuing military and political uncertainty in Kampuchea deterring refugee resettlement, coupled with the release of large numbers of South Vietnamese army detainees and a demographic forecast in Vietnam of a continuing 2.8 percent annual population growth rate suggest that the numbers who will want to leave Vietnam will increase in both the short and long run. The U.S. is currently reappraising its resettlement policies and delaying the processing of refugees in camps located in Hong Kong and Malaysia. Resettlement primarily for economic reasons is now apparently unacceptable and evidently contravenes the policy of allowing only those departing for political reasons to be given entry.

Among the Indochinese refugees in Australia, those who came from Vietnam directly by boat now represent only about 4 percent of the total although they were among the most dramatic of the arrivals. The last Vietnamese fishing boat to arrive in Australia sailed into Darwin in November 1980. Virtually all Indochinese arrivals now come by air after being processed in refugee camps by Australian immigration officials. During 1980 upwards of 80,000 Vietnamese boat people left for Southeast Asian destinations. Today less than 15 percent are believed to be of Chinese origin whereas two years ago over half were of Chinese ancestry. Currently a larger number of single young males, many leaving to escape military service, are recorded as among those arriving in the refugee camps. More peasants, fishermen and unskilled laborers are attempting to leave Vietnam, possibly for primarily economic rather than purely political reasons.

The reappraisal by the United States of those previously deemed eligible for resettlement in America will undoubtedly place an increasing burden on other countries such as Canada and Australia. The 1980 U.S. Refugee Act requires a refugee to be unable or unwilling to return to his or her country of habitual residence because of persecution or a well founded fear of being persecuted for reasons of race, religion, nationality or membership in a particular political or social group. Reference is not made to economic refugees or those who leave their homelands to better their livelihood. The redefinition or stricter evaluation of those eligible for resettlement in the United States will certainly increase pressure on other receiving countries during 1981. A variety of migratory population pressures are building up again within Vietnam and will continue, if not significantly increase, the number of those wishing to leave by sea during the calmer weather before the next monsoon season.

The number of Vietnamese in Australia who are attempting to expedite family reunions will grow and increase proportionately the potential number claiming priority for resettlement in this country. Internal pressures in Vietnam of a political and economic nature will also contribute to the problems and encourage larger numbers to apply for a place under the "ODP." Also underlying these factors are important demographic realities which could see a population in Vietnam of nearly 100 million in 20 years if the present 2.8 percent annual growth rate is allowed to continue. Short run and long term indicators suggest both a continuing and increasing number of Indochinese settlers, especially those from Vietnam wishing, attempting, or succeeding in their attempt to come to Australia. ☐

Stewart E. Fraser is Professor of Education at the Centre for Comparative and International Studies in Education at La Trobe University, Bundoora, Victoria, Australia.

PAA coming: The Population Association of America's next annual meeting takes place April 29 through May 1 in San Diego, Ca., in the Town and Country Hotel. The 10th annual Psycho-Social Workshop will be held there April 27 and 28.

New journal debuts: A new scholarly journal begins publishing in 1982: *Population Research and Policy Review*. The Review will cover demographic research and critical examinations of population related policies. It will also endeavor to broaden the focus of population journals by including articles on phenomena that affect or are affected by population dynamics; e.g., biology and the physical sciences. Editor in Chief: Larry D. Barnett, Delaware Law School, Widener University, P.O. Box 7474, Wilmington, Dela. 19803. For subscription information, contact the publisher, Elsevier Scientific Publishing Co., P.O. Box 211, 1000 AE Amsterdam, The Netherlands, or its North American office: The Journal Information Center, Elsevier North-Holland, Inc., 52 Vanderbilt Ave., New York, N.Y. 10017, phone (212) 867-9040.

Poverty, U.S.A. The fastest-growing population in the U.S. today is the poverty population. About 3.2 million persons were added to the poverty population from 1979 to 1980, according to Current Population survey data released by the Census Bureau. In that 12-month period, the percent of persons in the population living below the poverty level jumped from 11.6 to 13.0, the highest percentage in thirteen years. For a non-farm family of four, this means that their money income was less than $8,414 annually.

Correction

In the article appearing in last month's INTERCOM on the total number of people who had ever lived as projected by Arthur H. Westing of Hampshire College,* a calculating error caused some of the reported totals to be slightly off. The last two columns of the article's table should have read:

Year	Total no. persons born so far since 298,000 BC	Population at the time as % of total no. persons born so far
40,000 BC	2.7 billion	0.1
8,000 BC	7.7 billion	0.1
1 AD	21.8 billion	0.9
1650 AD	37.3 billion	1.3
1850	40.9 billion	2.4
1945	44.2 billion	5.2
1980	46.4 billion	9.5

So as of 1980, 46.4 billion *Homo sapiens* are calculated to have lived or now be living. And the population alive as a percentage of all who have ever lived might reach 13 percent by 2000, and 21 percent by 2030.

*In *BioScience*, 1981, 31(7), 523-524.

world food news

World fish catches declined by slightly over a half million tons in 1980, and are not expected to change substantially from that level during 1981, according to the Food and Agriculture Organization (FAO) of the United Nations.

Developed nations as a group recorded an increase in total fish production of 200,000 tons, reversing the downward trend that started in 1977, and accounted for 53 percent of total world catches. The Federal Republic of Germany, the United Kingdom, Iceland and the Soviet Union, however, all registered significant declines in production. Japan and Denmark accounted for most of the increase in catches among developed countries.

Among developing countries, the sharpest declines in catches on a percentage basis were recorded in Africa, where aggregate production fell over 300,000 tons to 3,219,000 tons (figures do not include aquatic mammals and plants). Latin America registered a more than 400,000-ton reduction in catches from the 10,028,000 tons landed in 1979, while production in Asia was virtually unchanged from last year. In fact, heavier landings in China, Indonesia, Malaysia and the Philippines balanced reported declines in Thailand, the Republic of Korea and India.

FAO generally attributes this worldwide reduction in catches to spiralling fuel costs and stagnant product prices. Moreover, the inability of Common Market member states to agree on a common fishery policy had particularly adverse effects on the results of Germany's deep-sea fleet. Also, some states (Soviet Union) reported reductions due to expiration of fishing rights in other countries' exclusive economic zones (EEZs).

Despite a continuing upward trend in global fishing effort and a growing emphasis on aquaculture production, FAO does not predict any great increase in catches during 1981. Reasons given for this are the state of fish stocks and the restrictions imposed by the new regime of the sea.

On the one hand, a significant number of important fish stocks either show signs of overfishing or have not recovered their full productive potential, despite the imposition of conservation measures. On the other, the laws governing the exclusive EEZs and the costs involved in licensing fees have complicated the process of negotiating fishing access for foreign vessels in the EEZs of coastal nations.

Although certain developing nations – especially Peru, Thailand and the Republic of Korea and perhaps also Chile and Ecuador – will feel the impact of the above factors, the Third World countries as a group seem to offer the best hope of any expansion in world catches in 1981. Mexico, Uruguay, Nigeria, Ghana, and Burma, among others, will add significant catch capacity to their national fishing fleets this year.

The continuing production problems on many of the world's traditional fishing grounds, the existence of excess fleet capacity and the growing difficulties of gaining access to lucrative fishing grounds in non-national waters will probably accelerate the movement toward joint-venture arrangements. As of 1980, about 500 joint ventures were active and more cooperative arrangements are foreseen in 1981, particularly in the Indian Ocean and Western Pacific. The increasing value of traditional species due to their growing scarcity will also reinforce their utilization as food fish, and provide additional impetus to the development of food products utilizing non-traditional species. These same forces are expected to spur greater interest in the development of aquaculture – of shrimp, rainbow trout, salmon and mollusks, among other species. The contribution of aquaculture to world fish production will thus continue to increase.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organizaition of the United Nations.

grants/contracts

- Louisiana State University, Agricultural and Mechanical College: **Analysis of Population,** A.L. Bertrand and T.E. Koebernick, investigators. The objective of this study is to provide readily accessible sources of information on characteristics of the people of Louisiana, including trends and significance for state planning and development. 1980 Census reports and other sources will be used. (Funding from Louisiana State Government.)

- University of Chile, Faculty of Medicine, Santiago, Chile: **Collaborative Study of Neoplasia and Steroid Contraceptives,** R. Molina et al., investigators. This project is a long-term, hospital-based case-control study of breast, cervix, corpus uteri, gallbladder, liver, and ovary cancers in relation to both oral and long-acting-injectable contraceptives. This is a collaborative, multicenter study organized and supported by the Human Reproduction Unit of the World Health Organization.

- Georgetown University, Kennedy Institute of Ethics: **Role and Status Changes and Fertility,** J.C. Ridley, investigator. This project continues and expands the analysis of the sample survey data for the 1901-1910 low fertility cohorts in the U.S. A basic premise of the analytic framework is that social change occurring in the larger society produces changes in the role and status of women which in turn affect their reproductive behavior. (Funding from National Science Foundation, FY 1981 $60,000.)

Vital Statistics Update

Latest Provisional Statistics for the U.S.: August 1981

	12 months ending with August			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,639,000	3,557,000	15.9	15.7
Deaths	1,995,000	1,965,000	8.7	8.7
Natural increase	1,644,000	1,592,000	7.2	7.0
Marriages	2,431,000	2,401,000	10.6	10.6
Divorces	1,213,000	1,173,000	5.3	5.2
Infant deaths	43,400	45,500	11.9	12.8
Population base (in millions)			228.5	226.3

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 30, No. 8) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Refernce Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

THE MYTH OF MASCULINITY, by Joseph H. Pleck. Cambridge, Mass. The MIT Press. 1981. 229 pp. $17.50. ISBN 0-262-16081-1. LC 81-6058.

MEN IN THE MIDDLE: Coping with the Problems of Work and Family in the Lives of Middle-Aged Men, by Peter Filene, Englewood Cliffs, N.J.: Prentice-Hall, 1981. 193 pp. $10.95. ISBN 0-13-574509-8. LC 81-2865.

Two new books dealing with men, more specifically, masculinity, highlight the changes in the definition of male roles occurring in recent decades. If female roles are evolving from those of homemaker and mother, then male stereotypes must change also. **The Myth of Masculinity** explores the beliefs about male sexual identity which have characterized sex role research since the 1930s, and which, Pleck maintains, has limited new theoretical developments. This "male sex role identity" paradigm is summarized in terms of 11 propositions representing the predominate lines of sex role research. Pleck examines the empirical evidence supporting each of these propositions and criticizes the limits imposed by this paradigm. He objects to, among other things, the bipolar characterization of personality traits as either feminine or masculine—the sex role identity determined by the balance of the sexual orientations of an individual's traits. Compassion and passivity, for example, denote femininity; aggressiveness and ambition, masculinity. Pleck outlines an alternative approach which he calls the sex role stress paradigm. This is the general theory underlying the new research on sex roles. While it still underscores the importance of sexual identity in personal adjustment, this construct replaces the bipolar (masculinity-femininity) concept with the androgynous ("unisex") concept of sex typing, recognizing that the traditional focus on sex differences "obscures the fact that women and men are more alike than different." Under this less restrictive definition, masculinity need not include aggressiveness or exclude emotion. Clearly we can recognize the general acceptance of this new approach in the current attitudes which permit, even encourage, men to participate in traditionally female activities such as homemaking and childbearing, without questioning their masculinity.

The second book, **Men in the Middle**, consists of a series of autobiographical essays by men in middle age. They are essentially a self-assessment of their lives, a chronicle of the resolution of conflicts and of lost dreams. These are men nurtured on the rigid sex role differentiation of the 1950s, and the stories reveal some of the struggle to realize the male sex role identity or to overcome its limitations. While the author admits that the men who voluntarily submitted these essays asking for more insight into family life. What he finally received was a collection of honest and compelling stories which reflect many of the fears and stresses, joys and satisfaction experienced by members of both sexes in the attempt to cope with modern life. While much of the focus of concern is necessarily from the "male" perspective, the generality of the problems and situations described recall Pleck's statement that men and women are more alike than different. If we are to overcome the sexual stereotypes which have plagued personal and sexual relations, these two volumes are a good beginning. *—Mary M. Kent*

THE POPULATION OF THE SOUTH: Structure and Change in Social Demographic Context, edited by Dudley L. Poston, Jr. and Robert H. Weller. Austin: University of Texas Press, 1981. 298 pp. $25.00 ISBN 0-292-76467-7.

This collection of articles, the marjority of which were presented in their original form at the Southern Regional Demographic Group meeting in 1976, covers recent and historical patterns of demographic change in the South. Traditionally, demographic attention regarding the South was focused on those characteristics which set this region apart from the rest of the nation, e.g., high fertility, unique racial composition, low proportions of the foreign born, high proportion rural. As this work documents, such differences appear to be on the decline. These articles show there is yet an unresolved question whether the outcome will be a national convergence in demographic trends or merely an intersection of the Southern trends with those of the remainder of the nation. While chapters are devoted to both fertility and mortality, the recent reversal in the longstanding history of out-migration from the region understandably receives greater attention. In addition to documenting this reversal, the causes and likely consequences of the new flow of inmigration are explored. *—Cary Davis*

WORLD POPULATION AND HUMAN VALUES: A NEW REALITY, by Jonas Salk and Jonathan Salk. New York: Harper & Row, 1981. 170 pp. $15.75. ISBN 0-06-013778-9. LC 79-1683.

World Population and Human Values is a "pictographic essay" on world population trends and their relationship to human values and behavior. Using extensive charts and brief explanatory text, the authors describe the past, current, and future state of the world's population and discuss the need for human value systems to adapt to the changing demographic picture. The book is divided into five parts. The authors begin with a discussion of the sigmoid or "S" curve which appears throughout the book, using the growth of animal populations as examples. This is followed by a review of world population growth through history and a summary of current and future population trends. The third part describes two epochs in human history: the time of rapid population growth and the time of slow- or no-growth. The remaining parts of the book describe the changes or adaptation that the human value system must experience. Competition, independence, and power have emerged as dominant values during the epoch of "unlimited" growth of population and resources. Now, the authors contend, human values must and will adapt to emphasize collaboration, interdependence and consensus, or the human species may not survive this critical time. *—Patricia Cancellier*

THE FUTURE OF PASTORAL PEOPLES, edited by John G. Galaty, Dan Aronson, Philip Carl Salzman, and Amy Chouinard. Ottawa, Canada: International Development Research Centre. 1981. 396 pp. paperback. ISBN 0-88936-303-X. IDRC- 175e.

Pastoralism as a way of life is being eroded as the modern world relentlessly encroaches into its traditional habitats. As a result "pastoralism is increasingly being relegated to people too old to change, too poor in alternative skills to leave, or too far away from centers of power for anyone to care yet." This volume, the results of a 1980 conference held in Nairobi, Kenya, indicated that a great deal of effort is being directed to find ways to preserve, modify, and otherwise improve the conditions under which these people live. In recent years, social scientists have shown that many of the traditional practices of these cultures, developed over millenia, are not necessarily backward and incompatible with this age. They claim, instead, that pastoralism is a highly efficient way of accomodating to and exploiting a difficult and often harsh environment. The papers in this collection constitute fascinating reading for those unfamiliar with the pastoralist way of life and an important source of information for experts in the various development fields. *—Sergio Diaz-Briquets.*

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All the Fish In the Sea

by Arthur Haupt

Starting in the early 1970s, the growth of the world's ocean fishing catch slowed markedly. Whereas during the 1950s and 1960s it had increased by 6 or 7 percent a year, roughly doubling every decade, during the 1970s the growth suddenly dropped to 1 and 2 percent annually.

This drop-off was signaled in the early 1970s by the collapse of the anchovy fish catch off the coast of Peru, where overfishing and a shift in the Pacific currents caused the once-plentiful anchovy to almost vanish from the marketplace. But the fundamental reason for the decline was global. Most of the prime ocean fish species have now either reached the point where they are being fully exploited (hake, mackerel, whiting, sole, etc.) or have been largely depleted (Atlantic cod, Atlantic herring, haddock, etc.). In fact, most of what fishing growth there was during the 1970s seems to have been due to exploitation of new, "unconventional" species in response to a demand for more fish of any kind.

Many experts (including those at the UN's Food and Agriculture Organization) estimate that the world fishing catch can still expand – from the annual fish harvest of more than 63 million tons (as of 1979) to an ultimate 100 million tons or so, perhaps by 2000. Others think that the catch may level off, despite (and because of) more intensive efforts, well before that figure is reached. What certainly appears to be happening is a collision between the needs of the rapidly growing human population and the productiveness of the more-or-less stable fish population. And the outlook is that, barring some technological breakthrough, the world will never be able to rely on the sea as the ultimate cornucopia of food.

Water, Water Everywhere

At first glance, the oceans are so huge that they seem to hold the promise of being an inexhaustible food resource. There are, after all, 330 *million* cubic *miles* of sea water, and

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INTERCOM

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Annual memberships are as follows:

	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator – primary/secondary	10	13.00
Educator – college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Solons Meet in Beijing, Call for 1-percent Asian Population Growth

A 1-percent annual population growth rate for Asia by the year 2000 was the goal called for in the final declaration of the Asian Conference of Parliamentarians on Population and Development, which met in Beijing, Oct. 27-30.

The parliamentarians, from 19 Asian countries, reaffirmed their commitment to include population and resource considerations in the formulation and implementation of their development programs. The theme of the conference was "Population, Resources, and Development in Asia: Trends, Programs, and Policies."

While the 1-percent goal is voluntary and the conference did not produce any specific plans for achieving it, the group's agreement on this target is noteworthy because Asia, with 2.6 billion people accounting for 60 percent of total world population, is a developing area where governments have shown particular interest in population policies. Ninety percent of the world's poor live in Asia, and if present growth trends continue, the declaration cautions, this situation will further deteriorate.

The legislators pledged to work toward the reduction of population growth in a number of ways, including giving women more of a voice in the development process, allocating greater resources to population programs and making them an integral part of national development plans, monitoring population trends, stimulating community participation, and directing development efforts towards narrowing the gap between rich and poor. The participants also pledged to work for family rights laws, where necessary, to ensure equal rights for men and women within the household, and called upon all governments to increase their assistance to international population programs.

The meeting was the first UN-sponsored conference to take place in China, where a strict population program has brought national population growth down to a level not far above the 1-percent goal. ☐

Population at the UN

The *So You Want to Work in Population?* article in the September 1981 INTERCOM emphasized agencies principally involved in international development activities. Readers whose specialty lies more in the statistical side of population will also be interested in several other United Nations offices within the Secretariat. The UN Population Division conducts a comprehensive program of demographic estimates and projections, including the periodic assessments of world population. These evaluations of demographic trends on a country-by-country basis have become a benchmarkp publication in the field (the most recent Assessment, the 1980 edition, will be discussed in detail in next month's issue). The UN Statistical Office conducts an extensive program of worldwide data collection and is perhaps best known for its publication of the *Demographic Yearbook* and the quarterly update of country population and vital rates, *Population and Vital Statistics Report*. Both offices are located in New York.

So You Want to Work in Population?

Enthusiasm and Poverty: Working for Nonprofit Groups

Besides the academic world and government bodies of various types, a significant number of people pursue careers in population in another area.

That area is the community of private, nonprofit organizations. There are scores of such organizations, with headquarters located mainly in Washington and New York and varying widely in purpose, size, and activity.

Before you brush up your resume and hit the streets in search of a population career, however, be advised that:

(a) Population is *not* a huge career field. It's not possible to come up with a "census" of how many people receive full-time paychecks in the nonprofit population field, outside of schools, government, and family planning affiliates. An educated guess would be less than a thousand–including support staff.

(b) The job opening situation is "just terrible" right now, according to those in the field, who are observed to roll their eyes or make a glum thumbs-down sign when asked about placement opportunities. Government cutbacks, the economic recession, and the clouds of controversy that the very term *population* stirs up in some quarters, have all had a chilling effect on contracts, grants, and contributions. According to one worker in the field, "everyone is staying put" and openings are presently rare and usually for people with specific skills.

Different Groups, Different Roles

But the population world has seen hard times before, and the groups, like desert cactuses, have dug in, adapted, and diversified.

That diversity is a hallmark of population organizations. "Population," after all, is a very wide-ranging field that can include everything from deforestation to biology to social action to municipal planning. So the field includes such specialized organizations as Zero Population Growth, Inc., Negative Population Growth, and the National Alliance for Optional Parenthood. There is the Federation for American Immigration Reform (FAIR); the Environmental Fund (concerned with the impact of continued population growth on the U.S.); and the National Family Planning and Reproductive Health Association (NFPRHA), concerned with improving family planning delivery systems. There are many more.

In addition, nonprofit organizations exist covering other fields that overlap into population. For example, the National Audubon Society has its own Population Program, which promotes the stabilization of world population. The Urban Institute, in carrying out its role of studying U.S. urban problems, necessarily gets involved with such issues as fertility, adolescent childbearing, housing needs, and demographic projections.

The new Directory* of population groups in the Washington D.C. area lists some 90 private groups. Of these, a dozen or two are involved full-time in population issues alone; the rest are multi-function organizations that have population as one of their activities. This diversification enables expression of all kinds of viewpoints that would not be possible if only a few multipurpose organizations existed. (Where else but America would there exist both Zero Population Growth and Negative Population Growth?)

The functions of the organizations are as diverse as their areas of interest. There is no such thing as an "average" population organization. Some have two employees; some have dozens. Some operate all over the world; some operate out of a back room somewhere.

The Population Crisis Committee, for example, monitors development assistance funding as it passes through the U.S. Congress, and also supports new, innovative family planning projects in other countries. The Centre for Population Activities (CEFPA) trains family planning managers in the U.S. and other countries. Resources for the Future researches natural resource and population problems from an economic perspective.

A number of organizations maintain a data base. For instance the Population Information Program (PIP), based at Johns Hopkins University, publishes reports on family plan-

Continued on next page

Lean, lean times at Census: The U.S. Census Bureau, like other government agencies, is having to adjust to the new federal budget realities. The Bureau is currently operating on a continuing resolution (an extension of its 1981 budget), and has already had to RIF some 70 employees. (RIF, or "reduction in force," means reducing the workforce by so many positions, either by attrition or by layoffs.) In mid-January, Census Bureau director Bruce Chapman has announced that because of anticipated budget reductions, another 500 Census employees will soon be RIFed, and the rest of the agency will be furloughed one working day out of every 10, with salary reductions to match. (That is, they will work nine days every two weeks, and receive 90 percent of their former salary, though their Civil Service grade and theoretical pay level will not change.)The Census Bureau currently employs some 5,900 persons at all its facilities. While Chapman did not say so, these moves will probably delay further the already-delayed publication of many detailed 1980 Census results.

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*The *Directory of the Population Related Community of the Washington, D.C. Area* includes names, addresses, officers, and activities of nearly 200 local organizations working in population and is available for $5.00 per copy from Circulation Department, Population Reference Bureau, Inc., P.O. Box 35012, Washington, D.C. 20013.

Job Opportunities Bulletin is a bimonthly publication of openings in private and voluntary development organizations. The *Bulletin* also offers space to job-seekers wishing to advertise their availability. Individual subscriptions are $12.00 per year. For further information, contact Director of Recruitment, New TransCentury Foundation, 1789 Columbia Rd., N.W., Washington, D.C. 20009.

Continued from preceding page

ning and new fertility controls, and contributes to a computerized population information system, POPLINE. And the Population Reference Bureau publishes various series of publications (including INTERCOM), on different aspects of the population realm, and maintains a population library and information service available to the public.

A sort of percolating action takes place. While some groups (like PRB) are old, some (like Carrying Capacity, concerned with U.S. population growth) have only recently arrived. And groups change over time in response to changing needs, issues, and funding.

The Washington population community grew dramatically during the 1970s, due in large part to government programs (Title X and Agency for International Development contracts). However, this growth has probably reached a plateau, and population organizations, like other public interest groups in Washington, are currently in a holding pattern, with no current growth and job openings few and far between. Public interest in general is not a field that is hiring very much these days.

So You Still Want to . . .

The kinds of work that population people do is as varied as the organizations. A few groups employ demographers to do statistical research. Those groups whose mandate is to monitor and influence government policy employ lobbyists. Depending on the organization, there are positions for fundraisers, editorial specialists, librarians, educators, and student interns. And there are the usual administrative, clerical, and business support staff necessary for any organization.

Population groups are not a lucrative career field. The word from those in the field is that it's advisable not to put all one's career eggs in the population basket; i.e. one should have marketable skills (be it statistics or education or biology or fundraising) in addition to population expertise. Be flexible.

So why do people get into the field? One lobbyist, Phyllis Eisen of ZPG, recently put it this way: "Most of us are activists at heart. We are not table pounders demanding more or less regulation or special favors. As a result we have to be better informed, better organized, and more persistent than traditional lobbyists. We must always do our homework, understand complicated and misunderstood issues, keep up with constantly changing data, and manage to keep turned on and tuned in, under often overwhelming odds.

"The reality of being a Washington lobbyist is not the stereotype commonly believed. It is a day-to-day inching-along process, with more sore feet than glamour. There are many lobbyists and lobbies in Washington, but we have only one job to do: advocate the population causes and beliefs we and our organizations believe in. I wouldn't exchange it for anything else." ☐

Mozambique at 12.1 Million

The results of Mozambique's 1980 census have been released. They show a total population of 12,130,000 as of Aug. 1-15, 1980, when the census was conducted (after adjustment for an estimated 1.5 percent underenumeration). This figure is about 1.8 million more than previously had been estimated. ☐

Bangladesh at 87 Million

The 1981 population of Bangladesh stood at 87,052,024, according to a three-day census conducted in March by the Bangladesh Bureau of Statistics. The census reference point was midnight, March 5, 1981.

The new figure marked an almost 22-percent increase over 1974, when the last census was conducted. Among other findings: 44,849,973 males were counted, compared to 42,202,051 females. This indicates a narrowing of the sex ratio, from 108 in 1974 to 106 in 1981.

The questionnaire contained 11 questions on household characteristics and nine questions on personal characteristics. A sample survey was scheduled to be conducted in late 1981 for detailed household and personal characteristics. ☐

First U.S. 'Test Tube' Baby

The first American "test tube" baby, a girl, was born in Norfolk, Va., on Dec. 29, 1981. Elizabeth Jordan Carr weighed in at 5 pounds, 12 ounces, and both she and her mother, Judith Carr, 28, and father, Roger Carr, 30, were reported doing well.

The birth was the 15th since the technique of conceiving babies in a laboratory dish resulted in the birth of Louise Brown in England July 25, 1978. That birth was the project of Drs. Robert Edward and Patrick Steptoe.

The Norfolk conception was done at a hospital set up by Drs. Howard and Georgeanna Jones. The key to the technique is removing a mature egg from a follicle, fertilizing it, and then placing the new embryo in the woman's uterus. Typically, only one out of every 10 or 15 embryo transfers results in a pregnancy that is carried to term. But this ratio is steadily being brought down; teams of doctors are now performing the operation at hospitals in California, Houston, England, and Australia; about 100 women have so far become pregnant through use of the technique; and some predict the technique of in vitro fertilization and implantation may one day become a routine outpatient treatment. ☐

Brown honored: Lester Brown, president of the Washington-based Worldwatch Institute, has been awarded the A.H. Boerma Award of the UN's Food and Agriculture Organization. In particular, his publications during 1980 and 1981 were singled out for commendations, including his recent book *Building a Sustainable Society*. The $10,000 Boerma prize is awarded every two years to one or more writers whose work has increased international awareness of the world food problem.

Population Experts Meet at Manilla IUSSP Conclave

Vision and adaptability are traits that experts in population should have in order to serve the needs of the world in the 21st century. This exhortation was made by Rafael M. Salas, Executive Director of the United Nations Fund for Population Activities (UNFPA) at the opening of the 19th General Conference of the International Union for the Scientific Study of Population (IUSSP). The conference was held in Manila at the Philippines International Conventions Center and lasted from Dec. 9 to Dec. 16.

Philippine President Ferdinand Marcos delivered the keynote address before the more than 600 delegates representing one hundred countries from around the world who attended the conference. Marcos reaffirmed that the population program in the Philippines had been a most valuable ingredient in the totality of their endeavors to overcome the problems of poverty and bring the fruits of development to the masses of Filpinos. He affirmed his government's commitment to maintain population levels that would best enable the Philippines to achieve development objectives, and reminded the participants that the Philippines was one of the few countries in the world to have a constitutional provision pertaining to the management of population levels. Marcos's statement was welcomed by Philippine population planners, who were concerned that official support of the program might be waning.

Outgoing IUSSP President Ansley J. Coale spoke at the first plenary session of the conference, making a reassessment of worldwide population trends. Basing his remarks on his earlier studies of fertility and mortality trends in European countries and developing nations, such as India and Mexico, Coale discussed prospects for mortality decline in both developed and developing countries. He noted that earlier mortality projections had failed to take account of the achievements of modern medical technology but that later projections, such as those for India and Mexico, which took account of changing social structures as well as improvements in medicine, came closer to the mark. He expressed concern about the possibility of slower improvements in life expectancy after 1970 because of the slow pace of changes in social organization needed to bring improvements in health conditions.

Commenting on fertility decline, he noted the rapid decline of fertility in some developing countries, particularly China which had reduced its birth rate by half in 15 years, but expressed concern about the very slow pace of fertility decline in parts of the Moslem world and in Sub-Saharan Africa. Looking ahead, Coale was optimistic about the possibilities of further advances in medical technology to control mortality, but cautioned about the adverse effects of other technological advances, particularly the proliferation of nuclear weapons. He said he did not rule out the possibility of a demographic catastrophe of proportions equal to that of the Black Plague as a result of nuclear holocaust.

Old and new themes were discussed in the conference's 46 sessions, including two plenary sessions, two special sessions, 32 formal sessions, and 12 informal sessions. In his address to the plenary session that closed the conference, Jean Bourgeois Pichat compared the 1981 conference to the 1954 meeting at Rome. He noted that topics such as the quality of demographic data, internal migration, fertility, mortality, and the effects of population on development were common themes at both conferences. Among the themes that emerged during the 1981 conference were those that included the demographic consequences of the changing roles of women and the question of frontier migration in developing countries.

Sessions on mortality trends included papers on both the developed and developing countries. One concern was the continued social-class differential in mortality observed in both more and less developed countries. Papers stressed the need to consider broader social, economic, and political forces as well as availability of health services in the control of mortality. Srinivasa Meegama noted that mortality may have increased recently in Sri Lanka, which was noted for rapid mortality decline in the past. He cited deterioration in environmental conditions and the return of malaria as important factors.

In sessions on fertility trends, attention was directed to the declines in fertility that are being observed in a number of developing countries. Newly elected IUSSP Secretary-General Georges Tapinos said that a sustained decreasing trend in family size has been noted and that the Manila IUSSP conference was probably a benchmark in that we are now almost sure that the world's fertility peak is passed. He echoed Coale's caution that there are still countries with rapidly increasing population, particularly in Africa, but was generally optimistic about the possibility of downtrends in the near future. Multi-level analysis, encompassing both individual behavior patterns, as well as cultural and organizational forces, was called for in the assessment of fertility trends and the design and evaluation of fertility control programs.

In a closely related set of discussions, the process of family formation and family decisions was the focus of attention. Australian University demographer Terence Hull noted that demographic events such as fertility, migration and even mortality rarely occurred as the consequence of a single conscious decision, but were more often the culmination of a series of cumulative small decisions. Participants urged a greater effort to merge the study of demographic processes at the micro-level with understanding of broader social and organizational changes and their impact on the household and family.

Recent trends in fertility in the developing countries were also the subject of a special session devoted to findings of the World Fertility Survey. Eileen M. Crimmins and Richard A. Easterlin noted that new insights into fertility change could be gained by looking at the ways in which people adopt deliberate family planning. In their study of data on Sri Lanka and Colombia, the authors found that over 30 percent of the differences among households in the choice of birth control methods was explained by the excess of potential over desired family size and costs of birth control. In another paper, John Casterline identified four ways by which community factors affect individual reproductive behavior, including social norms, such as age at marriage, breastfeeding practices, contraceptive use, coital frequency, and induced abortion. Such norms are first instilled as individual values and attitudes, and then continue to affect adult fertility behavior.

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Another important trend in fertility control observed at the conference was the increased reliance on surgical sterilization. There are now over one hundred million sterilized persons worldwide, making voluntary sterilization the world's leading family planning method, Andras Klinger of Hungary told the session. He said that over 80 percent of couples protected by sterilization (tubal ligation as well as vasectomy) are from China, India, and the United States.

Migration flows were another focus of conference proceedings. According to Reinhard Lohrmann of the Intergovernmental Committee for Migration in Geneva, workers migrate when there is an imbalance between their expectations and their financial means to achieve such expectations. Put simply, they want to have more in life but they do not earn enough to be able to buy what they want. As a consequence, many developing countries, including the Philippines, are increasingly feeling the consequences of mass migrations of their workers. Migration may only be a temporary outlet.

According to Kingsley Davis, reliance upon emigration as a solution to national problems is like taking an aspirin for a toothache; there may be temporary relief, but the basic problem remains. Migration, according to Davis, is not the solution to either poverty or the population problem in the developing countries. If they wish to reduce their poverty, strenuous measures to give productive employment to all their people provide a more rewarding path.

Another dimension of the migratory response to population pressure was covered in an informal session on the development of frontier areas; which was chaired by George Martine. Such migration is currently occurring in Brazil, Indonesia, the middle East, and Africa. Warren Robinson pointed out that there are very few areas of the world which can be described as being actually "empty." Robinson stressed that one should view frontier migration in the developing world today in terms of changing the technology of land use, substituting a more intensive type of use for a less intensive one. Participants in the session noted the striking similarities between such programs as the Brazilian Amazon settlement and the Indonesian Transmigration Program.

One of the "firsts" represented by the Manila meeting was the participation of a number of Chinese demographers in an IUSSP conference. Representatives of various Chinese institutions participated in a special session on the demography of China. A paper by John Aird of the U.S. sparked controversy when he expressed concern about extreme cases of family planning coercion in China, focusing on forced abortions. Aird claimed that popular resistance to family planning is still strong in China and that some organizations have not made clear the bounds that should be set. Although authorities warn against coercion, no penalties for it exist. In response, the Chinese delegates said that such reports do not reflect the overall picture of the population program in China, which has many accomplishments and is generally voluntary in nature. The Chinese rejoinder was made by Lin Fu De of the Institute of Population Research of the Peoples University of China, who reported that such defects are regional and do not reflect the overall picture. He regretted that the positive accomplishments of China's population program were not touched in the Aird paper and felt that it gave the wrong impression of family planning achievements in China.

In a session devoted to the relation between population trends and international economic relations, Timothy King of the World Bank expressed concern about the low level of official resource flow from the developed to the developing world. King was in favor of providing capital to help the developing countries instead of encouraging migration. He said the flow of immigrants may worsen the distribution of income since it is usually the relatively poor in industralized countries who compete with migrants. One way to equalize average income among countries, he pointed out, is capital movements or transfers of resources rather than people. In another paper, Paul Bairoch said that there is serious danger of future severe food shortages resulting from increased population if present trends in per capita food production continue in the third world.

In the General Assembly of the IUSSP, members elected William Brass of the London School of Economics as the president-elect of the Union. He will succeed current president, Mercedes B. Concepcion, whose term runs from 1981 to 1985 and who was Chairperson of the Organizing Committee for the Manila Conference.

Delegates to the conference applauded the skillful planning by both Philippine and IUSSP secretariat officials in organizing the conference. Of the delegates attending the meeting, more than one hundred representatives came from North America. The largest bloc of participants came from Asia, followed by Europe, Africa and Latin America, and Australia and New Zealand. The next general conference is planned for 1985. The location of that meeting, which may be either Helsinki or Rome, will be decided at the next meeting of the IUSSP Council in February 1982.

INS Records Are 2 Years Behind

The U.S. has some 10 million visitors a year, but the Immigration and Naturalization Service (INS) is about two years behind in processing the forms connected with these visitors' arrivals and departures. The forms have been put on microfilm and are being stored in warehouses. It could, however, be 1984 before the INS has caught up in its processing enough to know who was here in 1982.

The INS is about to present to Congress a proposal for a new computer system that would be able to handle visitor data rapidly. If Congress votes the money, the system could be phased in over the next 10 years. ☐

59 percent of voting-age Americans took part in the 1980 presidential election, the U.S. Census Bureau reports. The percentage is roughly the same as the number of voters in 1976 but down sharply from a 69 percent voter turnout as recently as 1964. Broken down by race, 61 percent of white eligible voters went to the polls in 1980. compared to 51 percent of the Hispanic population.

Canada Announces Migrant Goals

The Canadian government has announced that country's immigration goals for the next three years. The immigration ranges for each year are for 1982, 130,000-135,000; for 1983, 134,000-144,000; and for 1984, 130,000-145,000.

At the same time, Canada's emigration is estimated to be some 75,000 per year.

As one of the world's three major migrant-receiving countries (the U.S. and Australia are the other two), Canada admits immigrants at a rate of about 5.4 per 1,000 population as of 1980 (as compared to the U.S.'s under 2 per 1,000 in 1980 and Australia's 3.8 per 1,000 in 1976). The criteria for immigration are: social (e.g., reunification of families); economic (immigrants who fill labor-market needs); and humanitarian (admission and resettlement of refugees).

About 35 percent of Canada's 143,117 immigrants for 1980 were admitted under the family category (i.e., reunification of families). The remainder were refugees (28 percent of the total) and various labor categories (36 percent), though for many of these, having a relative already in Canada was a factor in their admission.

Each year, the Minister of Employment and Immigration will submit immigration number goals for the next three years to the House of Commons. These numbers will not be mandatory, and can be adjusted as required. But they will enable the Canadian government and provinces to better coordinate immigration flow, improve long-range labor market planning, and probably heighten Canada's awareness of its voluntary role as one of the world's major immigration receivers. □

A U.S. of 114 Million

A tax credit for not having children? Birth control materials and sterilization for everyone at government expense? A new federal Dept. of Population Reduction? These are just a few of the elements of a national policy to reduce US population recently proposed by the New York-based membership organization, Negative Population Growth, Inc. (NPG).

Nine specific policy proposals have been advocated by NPG, which would like to see an orderly population decline over the next 100 years, culminating in a stabilized U.S. population not more than half today's size. But the effort to limit population growth should not be confined to within U.S. borders, says NPG president Donald Mann, who has suggested that an Agency for Reduction of World Population be established to replace the present Office of Population in the U.S. Agency for International Development.

While the group opposes compulsory measures to achieve population reduction, it has fueled the current debate over a national population policy by recommending that retirement benefits be decreased in proportion to family size, tax deductions be eliminated for all future children, immigration be reduced to the level of emigration, and the President be required to devote part of the annual State of the Union address to giving a U.S. demographic update and announcing the country's population goals for the coming year.

Admitting that such a program is not politically feasible at the present time, the group nonetheless believes that public acceptance of NPG will increase as the world enters the "Age of Shortages" and more people become informed about the linkages between population growth, resource sufficiency, and environmental pollution.

If carried out, NPG's program would result in a projected reduction of the U.S. total fertility rate from 1.8 to 1.0 children per woman over a 20 year period; maintenance of a 1.0 TFR for 10 years; and then a gradual rise in the TFR from 1.0 to replacement level (2.1) over the succeeding 20 years, as population stablized at the new, lower level of 114 million, where it would remain.

There would be temporary problems of a demographic nature, the group admits. Because the U.S. median age would temporarily rise to more than 50 years, funds for retirement plans would run out unless people continued working until well beyond what is presently considered "retirement age." But in the end, as the "optimal population size" was reached, the smaller, stable population would encourage the continued growth of per capita gross national product, help prevent unemployment, and enable the country to achieve energy and resource self-sufficiency.

NPG's theses are contained in a new 54-page booklet "Urgently Needed: A National Policy to Reduce U.S. Population" available for $3.95 per copy from NPG, Inc., 16 East 42nd St., Suite 1042, New York, N.Y. 10017.

PRB's Handbook Marches On

With the recent release of the Thai language edition of the *Population Handbook*, first published by PRB in 1978, the publication is now available in seven major languages.

In collaboration with PRB, the Institute for Population and Social Research of Mahidol University has translated the international edition for use in Thailand. Copies are available in that country from the Institute and from the Population Reference Bureau.

Earlier in 1981, an Indian Ocean edition in French, including examples and illustrations from the Seychelles, Mauritius, Comoros, Reunion, and Madagascar, was completed. Cooperating with PRB demographer Carl Haub on this project were Alain Jourdain of Reunion; Vakil Rajcoomor of Mauritius; Tursan d'Espaignet of the Seychelles and representatives of population-related agencies in Comoros and Madagascar. A Dutch language edition was produced during 1981 by the Netherlands Interuniversity Demographic Institute at Voorburg. H.G. Moors and J.C. van den Brekel collaborated on the adaptation and translation, giving attention to the special demographic concerns of the Netherlands. Attractively illustrated by lively cartoons, this edition is now required reading in geography courses in the final year of Dutch secondary schools.

The Demographic Institute of the University of Indonesia, with UNFPA support, translated the Handbook into Bahasa Indonesian for use in that country.

These translations were made possible by PRB's adaptation in 1980 of the original domestic edition into an international version in English, featuring examples and illustrations from over 50 countries, and French, Spanish, and Arabic versions in which the demographic descriptions were based on data and examples in regions where those languages predominate.

PRB is currently considering a number of additional requests to translate and adapt the Handbook, a copyrighted publication of the Bureau, from other institutions around the world. □

demographer's page

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Foolish Precision: Unnecessary and Misleading Reporting of Population Statistics

by Ralph Thomlinson

Population is a lively and timely subject, but it suffers from having to deal with statistics (e.g., a national population of 12,345,678 persons increasing at a rate of 2.34 percent a year). Insofar as demographers try to convey the facts and trends of their field to the general public or political leaders, they need to present data in a different form from that used when writing for statistically knowledgeable scholars. Readers, in their turn, should learn what to look for when reading these numbers.

How Much Is Enough

In the presentation of quantitative data, two criteria are available for determining how much detail should be included. One is borrowed from the writing of prose and is taught in high school and college freshman English classes: be succinct, avoid wordiness, never use a long word where a short one will suffice, never use a phrase where a single word will do as well, and so forth. It is well known that many demographers share with other social scientists a tendency to waste words through failure to follow these recommendations; less well known is their tendency to waste digits.

The second criterion hinges on the significant digit: one whose expressed value is reasonably certain to be correct. Students in a beginning course in statistics are taught to report only those digits that are likely to be accurate; if accuracy is uncertain, a place-holding zero should be used. Note that the decimal point has nothing to do with significant digits: a desk may be 1.6 meters wide, or 1600 centimeters; in either case, there are two significant digits.

The latter criterion is fairly straightforward in its application, but the first is much harder to put into use, dealing as it does with such different sub-criteria as meaningfulness, avoidance of boredom or dullness, efficient use of available space, desire for clarity, and facilitation of remembering. Unfortunately, many people who present statistics compulsively report a certain level of detail (say, two decimal points) without considering whether this amount of detail is appropriate in the given context.

This compulsion is sometimes magnified when one is working with a computer. Computer programs usually call for printouts having many decimal places, and some people believe in these extra digits because they are produced by a machine whose magic they cannot comprehend. Such computer users just copy every digit the printout supplies, and often these supernumerary digits are retained even in the final presentation.

Some people are obsessed with precision. They read in the 1950 census that the median (average) individual income in Scarsdale, New York, was $9,516 – and they act as if all four digits are meaningful. But there are two errors here: (1) because it is derived from a sample, this median is not accurate to the level of one dollar, and (2) there is little or no use for the last two digits. To say that the median was approximately $9,500 supplies useful information, but there are few contexts in which accuracy closer than $100 is meaningful. Unless one wants to stress minor differences (as in a comparison of median incomes of urban places), presenting the final two digits does little more than distract attention from the two important digits and make it more difficult for the reader to remember the whole. Readers are more likely to remember 95 than 9516, and some will remember only ??16, which is ludicrous.

Similarly, the population of the country mentioned in the opening sentence of this article is best understood by a lay audience as 12 million. Only rarely is the familiar 12.3 million appropriate, and an ordinary person never finds a use for all eight digits: 12,345,678. If we know that there are 12 million inhabitants, we are aware that the country is small but not very small, and that it is roughly the size of Ghana in 1981. Adding even the 0.3 does not add useful information, for the country remains in the same size class, being slightly larger than Chile (11 million) and slightly smaller than Iraq (14 million). What use, then, is there in knowing of the presence of another one-third million people?

Population Bases That Are Preferable to 100

Years ago, demographers took the laudable step of presenting birth and death rates on a base of 1,000 rather than the traditional 100. Their purpose was to eliminate decimals, which confuse some readers, irritate others, and discourage people with no number sense. Rather than reporting a birth rate as 1.7 (per 100), demographers have had the remarkable sense to write 17 (per 1,000).

Demographers go further. When a base of 1,000 would require decimals because of a low frequency of occurrence of the event reported, they use a larger base. For instance, causes of death are usually reported for a base of 100,000. Thus deaths from malignant neoplasms were 167 per 100,000 persons in 1972 (in the United States), as compared with 101 from cerebrovascular diseases and 16 from cirrhosis of the liver. Even when the figures for two causes of death are close, there is no need for another digit; for example, the rate for arteriosclerosis was also 16, and there is little point in introducing further detail to contrast it with cirrhosis.

The Unnecessary Use of Decimal Points

These commendable decimal-avoiding steps having been taken, many users of population statistics still remain too decimal-bound to follow this wisdom. They speak of a death rate as 36.8 in preference to 37. But is the 0.8 accurate? If accurate, is any useful information transmitted by it? Is it meaningfully different from 36.6 or 37.2, which also round to 37? Neither trend-studiers nor policymakers have anything to learn from observing a change smaller than one per 1,000. Thus the 0.8 is not part of the message; it is noise. Also, it violates the rule of simplicity and makes the text or table more clumsy. Readers can take in 37 much better than 36.8, and listeners may recall the last digit the best, the rate then becoming "thirty-something and eight-tenths."

Remembering Mark Twain's line about "Lies, damn lies, and statistics," one can ask whether 0.8 is a lie. If the data-collection techniques yield figures accurate to within one in 10,000, then it is not. But it can remain an irritation, a pretence, or a condescension.

There are legitimate uses of 36.8, as when comparing a rate with others that are almost identical but supportably different, especially when later calculations are to be made. Consistency also may call for detail: if some numbers in a list or a table column are reported in tenths, then usually the entire list or column should be so reported.

Note that this article's complaints are confined to the popular presentation of numbers, not their computation, and particularly against the reporting, as the article's title says, of unnecessary or even misleading digits. But the usage is different when further analysis is to be done. If the numbers are going to be multiplied, divided, or otherwise manipulated to produce derived measures, then extra digits are appropriate and, indeed, essential. The base data need to contain at least one digit more than the level of accuracy desired in the resultant rate. Because each step in the calculations may lose one digit of accuracy, it is necessary to begin with an oversupply of information.

To return to the opening criterion borrowed from prose, the 0.8 in 36.8 is crudely analogous to an adverb modifying an adjective (the 6) modifying a noun (the 30). Good writers try to avoid too much piling-up of words; statisticians should attempt similar parsimony in the use of numbers.

I have lost arguments with editors in which I wanted to report a rate as, say, 5½, by which I meant that it was known to the nearest half but not to the nearest tenth. Editors usually want to change my figure to 5.5 and seem unwilling to accept that a number may be correct to the level of one-half but misleading when presented to one-tenth.

On Precision, Data Sources, and Varying Uses

People generally seem to have trouble accepting the notion that not all digits are precise. Some even try to extend the level of precision beyond the stated amount. One person believes that a 12-hour pill continues to work at full force for 720 minutes but has zero effect in the 721st. An advertiser or merchant tries to convince us that $49.95 is meaningfully less than $50. These persons should be kept in mind when one reads or writes about statistics.

This advice also applies to reading the findings of professional statisticians. One statistician I know was doing research for an article on United States military deaths overseas. To calculate rates, he had to rely on an estimated base of military personnel which was erratically complete for a limited number of dates, unevenly spaced. Death statistics were reported as of the time of notification of the next of kin, which was up to three weeks later than the date of death. Also, no one knew whether to count missing soldiers as dead or alive. All these sources of error were deplored by the statistician, yet they did not convince him to present his calculated death rates with any less precision than was used for civilian rates in New York State.

Not only the data source but the use is important. One of the least accurate population figures is an estimate for the future. In October 1975 the U.S. Bureau of the Census projected the national population in the year 2025 by computing three figures (each deduced from a different set of assumptions) rounded to thousands; the high, medium, and low projections were 382,011,000, 299,713,000, and 250,241,000. To report nine digits would have been necessary, but a scholarly reader of the census report could have use for six. Yet, the same scholar lecturing before a college class might reduce the level of precision to three digits, realizing how much clearer it is to speak of 382 million, 300 million, and 250 million.

The Moral – Be Statistically Succinct

To sum up: Reporters of statistics will do well to follow the advice of poet Robert Browning as quoted by architect Ludwig Mies van der Rohe: "Less is more." ☐

All the Fish in the Sea

Continued from page 1

it has been estimated that conceivably 85 percent of world's biomass lives in the oceans.

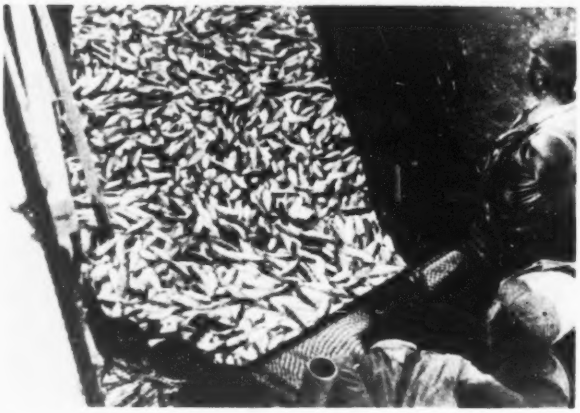
Food chains form a pyramid. The plants, which build themselves out of water, air, nutrient salts, and sunlight, are at the pyramid's broad base, and have the greatest biomass. In the case of the oceans, the most prolific creatures are the phytoplankton, microscopic plant organisms on which the rest of the ocean ultimately feeds; if all the phytoplankton in all the seas could be put in a cosmic scale and weighed, they might amount to tens or even hundreds of *billions* of tons.

At each level of the food chain (zooplankton, small plankton-eating fish, large carnivorous fish), the total biomass is less. By the time the level of harvestable fish is reached, their total weight is thought to be somewhere in the one-billion-ton range (wet weight). This is a huge kettle of fish, but still finite. If we follow the assumptions of oceanographer W.D. Russell-Hunter, that perhaps two-thirds of this fish mass is catchable, and that (roughly speaking) only half of this resource can be caught each year so as not to deplete the stock, we can guess that the absolute, theoretical potential of the oceans is quite possibly in the range of several hundred million tons of fish annually. The annual fishing catch today is already in excess of 63 million tons. Given omnipotent fishing fleets trawling through every cubic mile of oceans, this figure might be tripled or quintupled, but it is evident that humanity is already landing a significant portion of all the world's fish that can be harvested on a practical basis.

Incidentally, the present catch, large as it is, supplies only about 1 or 2 percent of the food needs of the world; some 6 percent of the total protein consumption, and 24 percent of the animal protein. (One-third of the catch is processed into fish meal, to be fed to livestock.) Consumption of fish varies greatly by country, however, and in some African and Asian countries it constitutes a major portion of the diet.

From Freedom of the Seas to EEZs

The concept of "freedom of the seas" goes back at least to the 17th century, when the oceans seemed much bigger, their resources limitless, and their boundaries difficult to police. Yet even during the days of sail, fishermen's efforts had their impact on the ecology. Fishing grounds off Newfoundland would decline, or require steeply increasing effort for the same result, and so the fishing boats would move south, looking for more abundant waters.



NOAA photo by Bob Williams

In the early 20th century, declines in the whale population caused by the whaling industry forced international cooperation to provide a total quota on the annual whale kill. (Such agreements have had only limited success because the quotas have tended to be set on the high side.) Quotas have also been imposed on fishing of various species, e.g., halibut. When adhered to, these quotas have resulted in revivals of the fishing stock and ultimately in the fish catch. But quotas have an economic side effect; they are an incentive for competing fishing fleets to obtain the greatest share of the quota (once the quota has been reached, the season closes and the fleets stay home). This has tended to make fishing fleets larger than necessary, "too many vessels chasing too few fish," in the words of an FAO study, which cites the example of the Pacific halibut fishing grounds, where the number of fishing craft has been known to be two or three times greater than necessary.

Many of these fishing problems were exacerbated by the freedom of the seas, which has meant that the oceans belonged to everyone, i.e., no one. But one recent sign of a shrinking world has been the declaration by many countries of national jurisdiction great distances (e.g., 200 nautical miles) out from their shores. With these claims (sometimes of territory, but usually of exclusive economic and fishing rights), the fishing grounds at last "belong" to someone, and their production, and who obtains a fishing license, can be controlled. These zones of jurisdiction, commonly called Exclusive Economic Zones, or EEZs, are a major event in the history of oceanic fishing (see INTERCOM, Nov/Dec, 1981). Now 99 percent of all ocean fishing is conducted within national jurisdictions.

Continued on next page

Table 1

Annual World Fish Landings (in Millions of Metric Tons)

	1948-1952	1953-1957	1958-1962	1963-1967	1968-1972	1973	1974	1975	1976	1977	1978	1979
Total all species	21.9	29.0	39.8	53.9	67.1	65.6	69.7	66.5	69.9	69.2	70.5	71.3
Inland waters	2.5	3.8	5.8	7.3	8.9	6.9	6.8	7.2	7.1	7.4	7.1	7.5
Total ocean	19.4	25.2	34.0	46.6	58.2	58.7	62.9	59.3	62.8	61.8	62.4	63.8
Anchovy	0.0	0.1	3.7	9.0	10.0	1.7	4.0	3.3	4.3	0.8	1.4	1.4

Source. Food and Agriculture Organization

Continued from preceding page

The fishing industry has diversified its endeavors to include previously unused fish species. And there remain various species of unexploited fish (including those that dwell 600 feet or more beneath the ocean surface) that might be the fish meal supply of tomorrow. Squid and other cephalopods are also abundant. (See Table 2.)

What about krill? Lower down on the food chain than the species mentioned so far, these small, shrimp-like crustaceans live in profusion, particularly in the Antarctic Ocean, and except for some pilot operations, presently provide food only for whales. The potential catch for them is conceivably very high – perhaps 100 million tons a year – but there are practical difficulties.

A single fish is a large, concentrated unit of food, relatively "easy" and cheap to harvest. When you use a tiny crustacean for food instead, the cost of harvesting goes up. They must be strained from great quantities of sea water, and the energy cost of this process may run to 1 ton of petroleum per ton of krill harvested. (The cost of harvesting plankton, sometimes suggested, would be even greater.) More efficient operations or a technology breakthrough (some chemical or electrical way to induce the krill to concentrate themselves) may someday make krill a vital part of the world's diet, but that day has not yet come.

Finally, aquaculture – actually growing fish in man-made fresh water ponds – holds the promise of producing up to 10 million tons a year, according to FAO estimates.

Table 2
Present Marine Catches per Year and Potential for Increase (in Millions of Metric Tons)

Stock	Potential world landings (yr)	Actual world landings 1966	1979
Conventional			
Salmon	0.65	0.45	0.58
Flounder and cod	6.70	4.69	3.35
Herring and anchovy	15.60[a]	13.71	2.25
Shrimp and lobster	1.67?	0.83	1.63
Tuna	2.26	1.03	1.70
Other demersal (bottom dwelling)	37.10	9.63	17.80
Other pelagic (dwelling in open sea)	40.20	13.05	30.03
Unconventional			
Cephalopods (including squid)	50.00?	0.83	1.56
Other mollusks	unknown	2.12	3.16
Krill	50.00?	– –	0.39
Mesopelagic (deep dwelling)	50.00?	– –	– –

Source. Food and Agriculture Organization estimates.

[a] Assumes recovery of Peruvian anchovy fishery.

The Bottom Line

There may be other increases, yet unforeseen, in the maximum sustainable yield of the world's fisheries; and improved methods of realizing that yield at economical cost. But the bottom line is that as big as the ocean's harvests may be, the human population is also rather large. The total wet weight of all the fish in the sea, from the biggest gray shark to the smallest minnow, is a statistic that necessarily must be whipped up with pencil and paper. Extrapolating up from the bottom of the food chain, Russell-Hunter in 1970 came up with an estimate that the oceans produced annually about 900 million tons of fish. George Rounsefell in 1975 came up with a figure of 5 billion tons (including both fish and shellfish), of which he estimated that 278 million tons a year were potentially harvestable. These and other estimates in this range add up to a lot of fish.

But consider the planet's *human* population. Since this group consists of people of all shapes, sexes, and sizes, and has a median age of around 23 years, one can make a conservative guess that the average person weighs at least 75 pounds; and that the whole 4.5 billion population weighs some 169 *million* tons. That's a lot for a single land species; and however one does the calculations, it's also a good fraction of the size of the ocean's fish life, which altogether may outweigh humanity by a "mere" 6 to 1. So even if every economic and technical barrier were somehow lifted, humanity is too large to subsist on fish alone for very long without depleting them. While the ocean wealth of the planet will always contribute to the food needs of humanity, it will never be a panacea. Relative to the needs of the human population, the seas are too small. ☐

grants/contracts

"Grants and Contracts," a listing of current research projects and funding that appeared monthly in INTERCOM is now suspended, at least for a while. The primary source for most of the listings came from a monthly printout of population research prepared for PRB by the Smithsonian Science Information Exchange, Inc., and that organization ceased operations on Oct. 30, 1981. SSIE, which had been in existence for 31 years, supplied subscribers with information on research in progress in their chosen field. According to its president, it closed its doors because of a lack of federal support. Some of its operations may be eventually taken over by the National Technical Information Service.

INTERCOM would like to continue publishing brief notices of current research projects, in the interests of keeping its readers informed of ongoing work in the population field. Therefore, the editor is soliciting from researchers summaries of their projects. (These summaries should contain: title of research; name[s] of principal investigator[s]; institution where conducted; organization supplying funding; amount of funding in present fiscal year; time frmae of research; and a very succinct prose summary of the methods and intent of the research.) These will be published in INTERCOM on a space-available basis. Send summaries to: Editor, INTERCOM, PRB, 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

Central American Refugees: The Flight from El Salvador

by Amalia Cabib

The ongoing war in El Salvador has created a rising tide of refugees and a series of problems in its neighboring countries.

In Costa Rica, an average of 30 to 40 Salvadorans a day apply for refugee status, according to the regional representative of the UN High Commissioner for Refugees. Not long ago, the Costa Rican government decided to settle about 100 peasant families from El Salvador in El Murcielago, a farm that once belonged to deposed Nicaraguan strongman Somoza. Many Costa Ricans, however, resented this measure, arguing that "it was not fair to give away land to outsiders when there was not enough for the local peasants." The UN is trying to solve this conflict by relocating some 350 Salvadoran farmers in a farm bought by the international organization in the foothills of Volcan La Vieja.

The Honduran village of Colomoncagua is the first place reached by most Salvadoran refugees who walk across the border. The refugees live in camps outside the village and a central warehouse provides them with essential foodstuffs. The hardship of the trek to Honduras and inadequate food supplies in El Salvador take a heavy toll among the Salvadoran refugees, many of whom are suffering from malnutrition, bronchial infections, and dysentery. Many children die from malnutrition and diarrhea.

Nicaragua was at first reluctant to open refugee camps, partly for fear of appearing to aid the Salvadoran rebels, but is now opening a camp to hold about 2,000 refugees near Leon.

According to figures compiled by the Office of the UN High Commissioner for Refugees, about 7,000 men, women and children have crossed the 400-odd miles from El Salvador to Belize. Newly independent Belize, with 3 million acres of idle land and a population of 145,000, is providing farmland to those who have already arrived, but wants to prevent an influx of more Salvadorans than it can absorb.

The regional representative of the UN High Commissioner for Refugees predicts that the Salvadoran exodus could cost UNHCR $10 million over the next year or two, compared to $1.5 million the agency spent on the 100,000 Nicaraguan refugees who fled their country during the 1978-1979 war.

Refugees Registered in Central America, Mexico, and the Caribbean: Late 1981

Receiving Country	Number and nationality: Supported by UNHCR	Number and nationality: Claim of government of receiving country
Mexico	4,000 Guatemalans 3,500 Salvadorans	100,000 Guatemalans
Costa Rica	8,100 Salvadorans 400 Cubans 60 Guatemalans	20,000 Saladorans 1,200 Cubans 700 Guatemalans
Nicaragua	3,100 Salvadorans	20,000 Salvadorans
Panama	3,100 Salvadorans	16,000 Salvadorans
Hondruas	18,000 Salvadorans	45,000-90,000[a] Salvadorans
Dominican Republic	800 Haitians	350,000 Haitians[b]
Cuba	12 South Americans	

Note The difference between the figures in the two columns is due to several factors. The UN figures refer to refugees supported by the UN High Commissioner for Refugees (UNHCR), while the national government's figures refer to all known refugees or those supported by that government. Moreover, the government's claim may be inflated for purposes of obtaining assistance.

[a] 90,000 is considered an unreliable figure.

[b] 350,000 is considered an unreliable figure. Caritas, a Catholic charity in the Dominican Republic, puts the figure at 6,000.

Sources. UNCHR 1981 Report, Northern Region; Marcos Bogan, personal communication.

The Scourge of Malaria Returns, Thanks to DDT

There seems to be a link between intensive agriculture and a new rise in malaria. That link is DDT and other pesticides. According to a study recently published in *Nature*, the heavy application of such insecticides is causing *Anopheles* mosquitoes to become insecticide-resistant. (The insects that survive the insecticide are those genetically most resistant. They are those most likely to breed successfully, and the result after a few generations is a super-resistant insect, sometimes immune to other pesticides as well.)

The results have been calamitous. For example, after 10 years of work, the World Health Organization was able to knock malaria down to 50,000 cases per year in 1961. But thereafter, the number of cases doubled and tripled until by 1970, 500,000 people a year were contracting the disease. In parts of Central America, by 1975, malaria was three times more prevalent after a 10-year campaign than before it.

Examples abound. And, using El Salvador statistics, the study's authors, Georgeanne Champin and Robert Wasserstrom of Columbia University, calculate that each kilogram of DDT added to the environment ends up causing 105 new cases of malaria.

The major cause of the heavy insecticide use seems to be intensive, large-scale agriculture as it is usually practiced in many parts of the world. The insecticide is used generously to kill insects that would otherwise feed on the crops – mosquitoes are not the target of this effort.

A more efficient way to quell the insects, say the researchers, is to inaugurate "integrated pest management," a system that limits pesticide use to those times in the growth cycle when the crop is most vulnerable. They cite Western U.S. cotton farmers, who now spray their crops only seven or eight times a year, compared to 40 to 50 times formerly. Such a disciplined system would prevent crop protection from interfering with malaria eradication. For with pesticide use, the less you use, the better results you ultimately get. ☐

Infant Mortality Reveals How Well a Society is Doing

Current changes in infant mortality rates are as important as ups and downs in the GNP in charting national progress, according to a new study released by Worldwatch Institute. Brazil and the Soviet Union, as well as the city of Washington, D.C., have recently recorded increases in their infant mortality rates, calling into question a century-old pattern that linked rising affluence with declining infant mortality.

"A high or rising infant mortality rate, or even one that fails to decline with income gains, is the sign of a development process gone astray," says Kathleen Newland, author of the report, *Infant Mortality and the Health of Societies*. "On the other hand, a rapidly declining rate may indicate an improvement in social and environmental conditions that is disguised by slow growth of the GNP."

One of the bitter fruits of the current economic crisis may be widespread upward pressure on infant mortality rates, notes Newland, a Senior Researcher with the Washington-based international research organization. As conservative governments cut back domestic and foreign programs for nutrition assistance, mother-and-child health care, family planning, and environmental protection, their decisions will affect the chances for survival of society's youngest and most vulnerable members.

"The infant mortality rate is usually expressed as the number of babies out of each thousand born alive who die before reaching the age of one," explains Newland. "For the world as a whole, the infant mortality rate is 97 per 1,000. That is, roughly one child out of every ten does not live to see its first birthday. However, among the most deprived people in the world, particularly in sub-Saharan Africa, infant mortality rates as high as 200 are still found. By contrast, fewer than 10 babies per 1,000 born alive die in wealthy and egalitarian societies such as Sweden and Japan."

The stark difference between the high and the low ends of this range is not simply the result of poverty and affluence, according to the study. There are poor countries such as Sri Lanka and China where the infant mortality rate is low, as well as rich ones such as Libya and Saudi Arabia where it is high. The level of infant mortality is regarded as one of the most revealing measures of how well a society is meeting the needs of its people. It is particularly sensitive to the distribution of available resources. Deprivation among the people of a particular region, class, or ethnic group within a country is likely to show up in an elevated infant mortality rate.

In defiance of a general postwar trend, infant mortality rates have risen in a number of areas. Washington, D.C., recorded a 10 percent increase in its infant mortality rate in a single year, from 22.2 deaths per 1,000 births in 1979 to 24.6 in 1980, giving the city a rate nearly twice the U.S. average. In Brazil, a similar problem exists on a far grander scale. In its largest city, Saõ Paulo, the infant mortality rate rose from 63 per 1,000 in 1961 to 95 in 1973.

The Soviet Union presents the most clear-cut example of a country-wide increase in infant deaths, rising from a rate of 26 in 1971 to one of 36 in 1976. By 1980, Soviet infants were dying at three times the rate of those in the United States. Food shortages, worsening industrial pollution, poorly managed flu epidemics, alcoholism, and the family stresses evident in rising divorce and illegitimacy have all been implicated in the increase. In addition, the proportion of the Soviet budget devoted to health care has been declining.

"In privileged communities, the majority of children who die before they are a year old are born with the condition that kills them – physical immaturity, a congenital deformity, a genetic disease, or a birth injury," observes Newland. "Deprived children share these problems, but for them the overwhelming majority of deaths are caused by the interaction of malnutrition and infection. In Sweden, for example, fatal birth defects are responsible for about one-third of all infant deaths. Ecuador, with approximately the same population as Sweden, loses a similar number of infants each year to fatal birth defects – but in Ecuador they account for only 1.5 percent of a much larger total number of infant deaths."

"Behind the direct causes of infant mortality are a host of social and environmental conditions that create a climate of hazard for the newborn," the author points out. "Increased smoking and drinking by women, particularly in developed countries, is one cause of concern, for both are associated with low birth weight and a variety of other conditions that put infant lives in jeopardy. Low family income, lack of sanitation, crowding, and exposure to toxic substances make infants more vulnerable to disease. And the mother's level of education directly affects her child's chances of survival: a poorly educated woman is less able to respond effectively to the threats presented by the physical environment. Many babies die from preventable or curable conditions because they and their mothers get little or no medical care. The infectious diseases that kill so many infants in the Third World – several kinds of diarrhea, tuberculosis, measles, tetanus, polio, diphtheria, whooping cough – kill hardly any in the rich industrial countires."

Breastfeeding is one of the very few sources of protection against malnutrition and infection that is available to the children of the very poor. The apparent tendency to abandon breastfeeding at ever-earlier stages of a child's life is thus a clear cause for alarm. Recent surveys indicate that in Latin America 10 to 20 percent of infants are never breastfed at all, and 25 to 50 percent are completely weaned by the age of three months. In the United States, however, breastfeeding dropped to very low levels during the 1950s and 1960s but has rebounded dramatically. By 1979, more than half of all new mothers in the U.S. chose to nurse their infants for at least a few weeks.

The total number of children that a woman bears in her lifetime and the timing and spacing of her pregnancies have major impacts on her children's chances of survival, according to the study. Women who start childbearing while in their teens or prolong it past their mid-thirties increase the chances that their children will die in infancy. Moreover, a woman's body needs time to recover from pregnancy, to rest bones and muscles and rebuild nutritional reserves. A study in El Salvador showed that short intervals between births were associated with infant mortality rates three to five times higher than normal.

"There is no quick fix for reducing infant mortality," Newland concluded. "The dominant causes of infant mortality today do not yield easily to direct medical action. The countries that have made the greatest strides in reducing infant mortality tend to be relatively egalitarian ones, and they have demonstrated that effective steps toward lower infant mortality are not necessarily expensive ones. Health education, more even distribution of food resources, improvements

Continued on next page

Depo-Provera Still Waiting for U.S. Government Approval

Depo-Provera, the injectable contraceptive in use in some 80 countries, is still not available as a contraceptive in the United States. But later this winter (no date has been set), a Public Board of Inquiry formed by the U.S. Food and Drug Administration is to meet to review the drug's status.

This is only the second time that the FDA has called a Board of Inquiry, composed of outside experts, to reassess a decision already made by the FDA. (In 1978, after several years of sitting on the case, the agency decided not to approve Depo-Provera's use as a contraceptive.) And this turn of events represents another chapter in the continuing, eventful saga of Depo, a contraceptive of great promise which can be administered in one injection good for three months, but which seems to be the subject of ever-continuing controversy.

Why? Well, Depo is a little different, in that it is a long-acting progestin that remains in the blood stream for three or more months. Like oral contraceptives, it acts by supressing ovulation, though unlike them, it does not contain estrogen.

Its side effects are also different. For many women, it disrupts menstruation, causing irregular bleeding and spotting. Often, this irregularity gives way to amenorrhea (no menstruation), which continues as long as the drug is used. Other reported side effects include weight gain and possibly the raising of blood glucose levels. But the menstrual disturbance is the biggest single reason to cause women to discontinue use of the drug.

The return of fertility after discontinuation is as complete as with oral contraceptives; that is, about 94 percent. (The return is slower, taking up to nine months.)

A greater controversy has centered on whether use of Depo increases cancer risk. This question arose during the original testing on animals by the drug's manufacturer, Upjohn, which showed Depo to be associated with greater risk of breast cancer in beagle dogs which had been given the drug in varying doses. A panel formed by the U.S. Agency for International Development to review Depo data did not find this result to be necessarily indicative of increased breast cancer among women. (Beagles metabolize progestins differently than humans and are particularly prone to breast cancer.)

Another Upjohn study involved rhesus monkeys that received 50 times the contraceptive dose of Depo over 10 years. Two of the monkeys developed endometrial cancer; but the AID panel concluded that the implications of this study were unclear; because, among other reasons, Depo affects the endometrium of humans differently than that of rhesus monkeys, and is even used to *treat* women who have cancer of the endometrium.

But in a larger sense, what has made this injectable contraceptive a lightning rod for criticism has been the last 20 years of concern over oral contraceptives. While the pill has proved very popular and is credited with transforming the family planning situation worldwide, there have been rare but measurable health problems associated with it. The close scrutiny of Depo-Provera has been due in large part to its being the first major chemical contraceptive to come along since the pill.

Moreover, Depo by its very nature is not perceived as being "controllable"; i.e., you can stop taking the pill tomorrow if you change your mind about contraception, but with Depo, once you have received the injection, you are "on" it for up to three (or more) months. Whatever side effects there are will continue (though in acute cases, doctors can treat and ameliorate these effects).

These reasons help to explain why approval of Depo has been held up, and why criticism of it, while coming in part from the New Right (wary of foreign assistance and contraception in general), has been principally from feminist health groups.

One significant result of the Depo controversy is that the U.S. Agency for International Development, which follows a general practice of distributing only FDA-approved drugs to aid-recipient countries, does not provide Depo-Provera as part of population assistance. AID does make exceptions to this general rule (e.g., measles vaccine, certain anti-malarial drugs), and last year a panel of experts recommended that the agency fund Depo distribution overseas. But AID has decided to wait until the FDA Board of Inquiry convenes.

The irony of the Depo-Provera debate is that all along, it has been used as a contraceptive outside the U.S., in some 80 countries. Some 1.25 million women presently use the drug, and some 10 million have used it. (In addition, relatively high doses of the drug are used in the U.S. to treat endometrial cancer.)

So, unlike most drugs awaiting FDA approval, Depo-Provera has already been widely used by humans. No deaths have been reported due to its use, and in countries where it has been, the results of usage seem to be favorable. It should be pointed out that Depo usage studies have been few, though these also have been favorable: studies of long-term users have not turned up any increase in risk of breast cancer, and studies of Thai women using Depo for as long as 15 years have not shown any increased risk of endometrial cancer. It's indicative of the situation that the AID panel that recommended Depo's distribution also called for further research on its effects.

The contraceptive has been endorsed by a number of scientific bodies, including the World Health Organization, the International Planned Parenthood Federation's Medical Advisory Panel, the American College of Obstetricians and Gynecologists, and the American Academy of Pediatrics Committee on Drugs. Most recently, it was approved for use in Sweden by that country's drug regulatory agency.

As for the FDA Board of Inquiry, when it does meet, its studies and decision are likely to take at least several months. ☐

Continued from preceding page

in sanitation, enhancement of the status of women, and restructuring of priorities in public spending can all pay handsome dividends in infant survivial."

Copies of Worldwatch Paper 47, "Infant Mortality and the Health of Societies" by Kathleen Newland, are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and checks (made payable to PRB) should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

world food news

Aiding Small Farmers

Food production on small farms is more efficient than on large holdings, Paul Harrison writes in *Ceres*, FAO's review of agriculture and development. Paradoxically, however, small scale farmers have less access to credit, fertilizers and new seeds than larger producers. Their incomes are falling further behind and their potential contribution to achieving national food security is neglected, says Harrison.

A study of small farms by FAO and the World Bank found that in seven out of 10 countries, small farms (below 5 hectares) achieved higher yields per hectare than large farms (above 20 hectares). In Colombia, India and Liberia, the yield per hectare of the small farm was twice that of the large, while in Iraq, small farms had five times the yield per hectare of the large holdings. The reason for this is that land is less valuable to the large landowner because he has a quantity of it. The small holder, however, must intensively cultivate his plot in order to get the maximum output possible. But there is a minimum size below which, however much the farmer may work, it is not possible to raise enough food to feed the family.

In most parts of the world, except Latin America, small farms are getting smaller. In 1970, the average size of small holdings ranged from 0.7 hectares in the Far East and 1 hectare in Africa, to 1.6 hectares in the Near East and 2.7 hectares in Latin America. These averages, however, conceal large numbers of owners with minute parcels of land. In Asia, for example, one-third of all holdings were smaller than 0.55 hectare in 1970.

The situation is getting worse, Harrison writes. Very few countries have had effective land reforms. In most, as the population grows and inherited land is divided equally, usually among sons, small holdings get even smaller until they pass below the minimum size needed for subsistence. The only recourse then is selling–and the large landholder is usually the buyer. In India, for example, the typical size of a small holding fell by 19 percent between 1960 and 1970, but the average size of middle and large holdings hardly changed. The large landholders were able to counteract the effect of equal inheritance by buying up the land of the small holders. FAO studies show that by the end of this century 42 percent of Africa's population will face severe land shortages, along with 82 percent in the Far East and 87 percent in the Near East.

Furthermore, official credit usually at highly subsidized rates, is given preferentially to large farmers, says Harrison, sometimes because that is administratively easier, sometimes because they have more collateral to offer–or have more local influence. Sixty percent of farmers in one Asian country got only 3 percent of institutional credit for agriculture, a 1975 World Bank study estimates. Peasant farmers in a Latin America country get only 3.5 percent of official credit for agriculture. As a result, small holders are usually forced to raise loans from moneylenders. These are often the big farmers, relending cheap government credit at a profit sometimes at interest rates of 100 percent or more.

Because they lack cash or credit, small farmers usually have very much less access to such essentials as new seeds, fertilizers, or pesticides. Other services are not geared to help them either. Until recently, agricultural research concentrated on a few high-yielding crops that demand good soil and water conditions and a high level of use of fertilizers and pesticides. It neglected the poor farmers' subsistence crops such as cassava, yams, millet, sorghum, or legumes. It ignored the needs of dry farming areas, or swampy areas, with poor soils, where poverty is most pronounced. It ignored the economic constraints that poor farmers face in buying inputs.

Extension services concentrated their efforts on teaching new methods to a few handpicked "model" farmers, in the hope that their example would be spread. These were almost always the better-off farmers, and they passed on their knowledge first to their better-off friends. Government services have thus often disproportionately helped the rich to boost their output and their profits, while doing little for the poor.

Despite all these handicaps, small farmers still tend to achieve higher yields per hectare than big landholders. If a fair share of attention were given to the small holders, Harrison predicts, even greater food production and reduction in malnutrition would result. Credit institutions, he writes, could be required to reserve a large proportion of small holders among their contact farmers.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

NFPRHA meets: The annual meeting of the National Family Planning and Reproductive Health Association will take place in Washington, D.C., March 10 through March 12, 1982, at the Washington Hilton. The theme of the conference is "Reproductive Health: New Decade: New Realities." For further information contact: NFPRHA, 1110 Vermont Ave. N.W., Suite 950, Washington, D.C. 20005.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: September 1981

	12 months ending with September			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,647,000	3,569,000	15.9	15.8
Deaths	1,998,000	1,968,000	8.7	8.7
Natural increase	1,649,000	1,601,000	7.2	7.1
Marriages	2,434,000	2,409,000	10.6	10.6
Divorces	1,210,000	1,180,000	5.3	5.2
Infant deaths	43,300	45,300	11.9	12.7
Population base (in millions)			228.8	226.5

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 30, No. 9) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

RURAL MALAY WOMEN IN TRADITION AND TRANSITION, by Heather Strange. New York: Praeger, 1981. 264 pp. ISBN 0-03-052616-7. LC 81-5140.

A study of women in one Malay village addresses the issues of how their roles and behavior "are affected by the structure of society, by the development process, and by changes in the direction of attaining or not attaining equity." Via participant observation and participation in women's activities, three on-site explorations in the years 1965-1966, 1975, and 1979 enabled anthropologist Strange to become deeply acquainted with the many contrasts between women and men in Malaysia. These sex-role differences still loom large in early socialization, in formal education, in employment, in government and politics, in marriage and divorce, and in and around the household. The development process has only softened, here and there, the lines of demarcation. Women thus remain women *a la tradition* in the various spheres of life. For instance, secondary and higher education are available to women, and in theory should facilitate their occupational diversification and mobility. In reality, child care continues to be, by definition, women's responsibility, and hence a constraint on their ability to compete with men in the modern sector. In short, the road to equality is theoretically open to all. But it still requires major grading and paving before it allows fair passage for all. Despite the thus-far unfulfilled promise of development, it still seems to be the only path to women's liberation. The wisdom embodied in Strange's Malay account should help others to monitor the future development of that liberation.

—H. Yuan Tien

FERTILITY DECLINE IN THE LESS DEVELOPED COUNTRIES, edited by Nick Eberstadt. New York: Praeger, 1981. 372 pp. ISBN 0-03-055271-0. LC 80-23528.

This volume is based upon a symposium sponsored by the American Association for the Advancement of Science in 1978. A series of essays by a group of prominent authors discusses many aspects of the well-known fertility decline in less developed countries (LDCs): John Caldwell on Africa, Susan Scrimshaw on infant mortality, John Aird on China, and seven others. In the concluding chapter, which editor Eberstadt considers the most "controversial," William Petersen criticizes the notion that family planning programs alone will suffice to bring down birthrates in the developing world. Unfortunately, Eberstadt's puzzling introduction and opening chapter detract from the value of the book. One may be surprised to read that the book is the "first attempt" to analyze fertility decline in LDCs; there is, indeed, an air of discovery in the introduction—certainly unwarranted in a discipline replete with studies, books, and articles on this very subject. While Eberstadt blasts demographers and the United Nations for estimating populations to the nearest thousand, it would seem obvious that the periodic UN assessments must do so, since estimates are produced for all countries, with both large and very small populations. The UN publications, of course, include lengthly discussions of the quality of the data available and the likelihood of the accuracy of the projection as well as giving High and Low variants, not just the Medium Eberstadt presumably refers to.

One table in Eberstadt's opening chapter in particular requires comment. In Table 1.1, the aim is to show that, along with a gradual decline in the growth rate of world population, the annual increment in absolute numbers of persons is also decreasing. His assertion runs counter to all other sources of projections, which indicate that the numbers added each year will continue to increase at least until the end of this century. Eberstadt's position is presented in a table which gives natural increase numbers for 1950, 1960, and 1970 from the 1973 UN Assessment and then inexplicably switches to an estimate for 1977 referenced only as the "Population Reference Bureau" and "USAID" (no dates or source publications are given). His selection of sources produces a decline in the absolute numbers added; if the UN Assessment had been used consistently, the opposite conclusion would be reached. The fact that a growth rate can decline while the numbers added continue to increase has often been initially confusing to non-demographers dealing with such statistics. Annual increases in the numbers are implied in most, if not all, projections and have also been projected by the UN in the more recent issues of their projections, those of 1978 and 1980. While all global population estimates are just that—estimates—there is no support for Eberstadt's assertion that "a discernable [downward] change in the absolute numbers has occurred." Statements such as this and references to a non-existent 1979 census in China call Eberstadt's familiarity with the subject into question.

—Carl Haub

THE HIDDEN FACE OF EVE: WOMEN IN THE ARAB WORLD, by Nawal El Saadawi. London: Zed Press, 1980. 212 pp. $6.95. ISBN 0-90576250-9; 0-90576251-7.

Nawal El Saadawi describes life for women in the Islamic Middle East. They are dominated by men, subjected to painful circumcision and sexual molestation as young girls, and pressured to remain in the home by their husbands as adults. The author is quick to point out, however, that the poor status and condition of women in the Arab world have less to do with the Islamic religion that predominates, than with the socioeconomic state of the countries and the patriarchal system that has descended from the Judeo-Christian society that preceded Islam. She also points out that in many ways Arab women are no worse off than Western women. *The Hidden Face of Eve* is divided into four parts, each filled with personal accounts of Arab women, historical background and analyses of the Koran. Part One describes the sexual domination of women in the Arab world, and includes a chapter on abortion and contraception. Part Two provides a historical perspective to the current status of women. Part Three looks at the Arab woman in history and literature. Finally, Part Four, entitled "Breaking Through," describes some of the pioneers of women's liberation in the Middle East and the gains that must be made in the political arenas, in employment, and in marriage before Arab women will be truly emancipated.

—Patricia Cancellier

THE POVERTY OF NATIONS: The Political Economy of Hunger and Population, by William W. Murdoch. Baltimore and London: The Johns Hopkins University Press, 1980. 382 pp. $22.50 hardcover; $7.50 paperback. ISBN 0-8018-2323-7 hardcover; ISBN 0-8018-2462-1 paperback. LC 80-16201.

The principal message conveyed by this book is that apparent but simple solutions are not the answer to complex problems. Relying on his nearly encyclopedic understanding of the reasons behind underdevelopment, the author carries the reader in a global excursion during which the mechanisms responsible for human poverty are laid bare. Along the way, popularly held myths dealing with ecological, environmental, and other such topics are serously and intelligently challenged—and challenged without recourse to emotion or on the basis of poorly documented arguments. Murdoch makes a strong case for the view that in developing, economically dependent countries, fertility reductions cannot occur as long as abject poverty persists. Reducing social inequalities with access to social services and other products of economic development is an important, if difficult to achieve, prerequisite. While some may disagree with some of Murdoch's premises, or with the nature of some of the solutions he proposes, this book is thought provoking indeed. Our understanding of the problems facing humanity is well served by this somber and well reasoned analysis.

—Sergio Diaz-Briquets.

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INTERCOM

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East Europe's Drive To Raise Birth Rates: A Temporary Success

by Jean van der Tak

The average family in Bulgaria can more than double its annual income with government benefits if it decides to add a third child. Hungary pays working mothers up to $30 a month to stay home to care for a child until the child's third birthday (after five months maternity leave at full pay). For the birth of each child, women in the German Democratic Republic (East Germany) receive 1,000 marks (nearly $450), equal to a month's wages of the average industrial worker. Czechoslovakia spends close to 10 percent of its national budget in direct and indirect subsidies to parents and potential parents in an effort to keep up the national birth rate.

Pronatalist cash incentives in these four Eastern European countries "are currently among the most generous to be found anywhere," says Henry P. David in PRB's *Bulletin* for February, "Eastern Europe: Pronatalist Policies and Private Behavior." They were put into place by worried policymakers when fertility fell—or threatened to fall—below replacement level (2.1 births per woman) after a wave of abortion liberalization which was touched off by the USSR in 1955. But any success this costly effort might have had in raising fertility now appears to be short-lived, says David.

After cash incentives for childbearing were introduced or increased substantially in the late 1960s and early 1970s in Bulgaria, Czechoslovakia, and Hungary and in 1976 in the German Democratic Republic, birth rates did take a spurt upward. But the latest data, for 1980, show fertility down again as low as, or lower than, it has ever been in the first three countries and not yet up to replacement level in the GDR, David reports.

It is true that "the socialist countries of Eastern Europe generally shifted from the lower to the upper end of the European fertility spectrum between the mid-1960s and the mid-1970s," David says. Even five years later, in 1980, only the GDR and Hungary had fertility as low as the 1.9 births

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INTERCOM

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	U.S.	All other countries
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Pill, Sterilization Recommended In Most Family Planning Consultations

In the U.S., most (58.6 percent) married women of childbearing age (15-44 years) who are not sterile have talked with a doctor or other health professional about family planning in the last three years.

These recently published data come from the 1976 survey by the National Family Growth Survey. The survey found that 84.1 percent of these visits were to a physician and 15.9 percent to a medical service (e.g., a family planning clinic). However, 37.0 percent of black women's visits and 32.7 percent of Hispanic women's visits were to medical services, indicating that minority groups were much more likely to use medical services for contraception than were white women.

The contraceptive method most often recommended by both personal doctors and organized medical services was the Pill. The Pill, however, was more likely to be recommended to women who visited an organized medical service than by a personal physician. (See table.) The personal physician was more likely to recommend sterilization, but this may be true at least partly because the women going to physicians in the survey were more likely to be older women, for whom sterilization is more likely to be indicated.

About 6.9 percent of the women who visited a doctor or medical service in regard to family planning did so to make use of infertility services.

The above data were collected by the National Survey of Family Growth which is conducted by the National Center for Health Statistics. These data are reported in NCHS's publication "Use of Services for Family Planning and Infertility: United States" by Gerry E. Hendershot and Karl E. Bauman, Series 23, No. 8, Stock No. 017-022-00768-1, available for $3.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. ☐

Percent Distribution of Contraceptive Methods Recommended to U.S. Currently Married Women Making a Family Planning Visit: 1976 Survey

Contraceptive method recommended	Race and place of most recent visit			
	White		Black	
	Own physician	Organized medical service	Own physician	Organized medical service
	Percent distribution			
All methods	100.0	100.0	100.0	100.0
Sterlization	30.4	21.3	28.9	21.1[a]
Pill	35.5	45.1	32.2	48.0
IUD	15.2	16.3	13.8[a]	17.4[a]
Traditional methods	18.3	14.6	21.9	12.8[a]
None	0.5[a]	2.6[a]	3.2[a]	0.7[a]

Note. This survey covers currently married, nonsterile U.S. women 15-44 years of age for family planning visits during the previous three years at which a recommendation was made to start or change a contraceptive method.

Source. National Survey of Family Growth, NCHS, DHHS publication no. (PHS) 82-1984.

[a] Figure does not meet standards of reliability or precision.

July 1, 1982 Is the Day for the Biggest Census Ever

China will conduct its third nationwide census in July this year, the *Beijing Review* reports. The official time for the census is midnight, July 1. Figures on the number of households and people will be announced three months after the census is completed, while other breakdowns will be given successively after being processed by computers.

Two earlier censuses have been conducted since the Communist revolution, the first in 1953 and the second one in 1964.

The third census will ascertain China's population and its population distribution, as well as various social and economic factors in order to provide reliable data for national planning and administration.

The task of taking the census in a country with a population of nearly 1 billion is unprecedented in world history.

Those to be counted are Chinese nationals living in the People's Republic and those working or studying abroad. Foreigners living in China will not be included. The populations of Taiwan, Penghu, Jinmen and Mazu will be included in China's tally, utilizing figures collected by the Taiwan government.

The third census will ascertain 19 demographic factors, 10 more than the second census. The added factors are all related to economics, including the trades and occupations of the employed and the status of those not in the labor force. This census will also survey China's work force for the first time.

New factors to be surveyed also include family planning and population control information, such as the total number of births in 1981 and the infant mortality rate.

The census design and method were developed through the co-operative efforts of Chinese population specialists and experts from the UN Fund for Population Activities.

For the first time in China, computers will be used to tally the census data. The 29 computers to be used in the survey were jointly provided by China and the United Nations.

Preparatory work for the first stage of the census has been completed. Two experimental censuses were carried out in July 1980 in east China's Wuxi city and Wuxi County, with a total population of 950,000. Trial censuses were also conducted in 1981, covering more than 2.3 million people in 28 provinces, municipalities and autonomous regions. These preliminary censuses helped to train statisticians for the official census. ☐

Canadian total: Statistics Canada has announced the provisional total of the census conducted June 3, 1981: 24,104,873 persons. This represents a 4.8 percent increase over the 1976 Census, which counted 22,992,604 Canadians. (Canada conducts a national census of population every five years.)

Half of all Americans are alive now. Of all the people (425 million) who have lived in the United States since the first census in 1790 (which counted 3.9 million), more than half (230.5 million) are alive now, the U.S. Census Bureau reports.

Housing has grown. The number of U.S. housing units grew by 20 million in the period between 1970 and 1980—nearly one housing unit for every person added during that period (a total of 23.2 million people).

UN's New Long-Range Projections

The UN's Population Divison recently released its latest edition of the benchmark series on world population trends, *World Population Trends and Prospects as Assessed in 1980.* This comprehensive compilation of estimates and projections is one of the most frequently cited publications of its type and has become a standard in the field.

This new edition, the first published since 1978, contains many tables in a standardized format giving populations, rates of change, birth and death rates, gross reproduction rates, and life expectancy at birth by sex for the world, its regions and subregions, and 210 countries, territories, or areas. Three variants of the estimates and projections are presented in accordance with the UN's standard practice: high, medium, and low. In this report, data are given for a considerable time span: 1950 to 2025.

While each of the three variants show little difference in their estimate of world population in 1980 (all three round to 4.4 billion), many users of the report will quickly look for the range of the year 2000 projections. In this series, those projections range from 5.8 to 6.3 billion, with 6.1 billion as the medium projection and the one that the Population Division considers to be "more likely" when current trends and government policies are taken into account. This medium projection for 2000 is slightly lower than that of the Assessment published in 1978, which contained a year 2000 projection of 6.2 billion.

The slightly lower medium projection for the world in 2000 does not imply a uniform decline in growth rates throughout the world. Rather, it is the net product of changes in the assessment of all countries and regions. Thus, we see that the projected population for Africa is higher in the 1980 edition than in the 1978 (853 million vs. 828 million) and for East Asia (about 1.5 billion vs. 1.4 billion). Latin America's projected population in 2000 is somewhat lower, 566 million as opposed to the earlier projection of 608 million, much of this accounted for by revised projections for Mexico and Brazil. Other regions with lower year 2000 populations than the previous Assessment include Europe and Middle South Asia. India's projection is 961 million, about 76 million lower. This is due not only to the assumption of a slightly faster fertility decline for India between now and 2000, but also to a somewhat lower "base" or starting population in 1975.

Continued on next page

On the Perils of Extremism in the Pursuit of Virtue. . .

by Davidson R. Gwatkin

How can a volume whose basic conclusions are as questionable as those of Julian Simon's *The Ultimate Resource* attract so much attention?

One reason is that many of Simon's specific points are well taken and that many of those which are not are ably argued. Another, pointed out in Peters Willson's perceptive assessment in the November/December INTERCOM, is the congruence between Simon's position and that of the emerging conservative economic philosophy.

An Easy Target

But Simon's task has also been greatly facilitated by the ready availability of easy targets provided by advocates of greater concern about population growth. This has been offered up in the form of statements so extreme as to practically invite their use to discredit the population movement.

Even those failing to share Simon's overall point of view, for example, can easily take strong exception to such examples cited by Simon as full-page newspaper advertisements bearing headlines like "Pope Denounces Birth Control as Millions Starve" and presenting excessive population as the principal cause of pollution and crime in the streets of the United States; a reference by a distinguished academic to a future in which the "earth is covered completely and to a considerable depth with a writhing mass of human beings, much as a dead cow is covered with a pulsating mass of maggots"; embarrassingly simplistic statements in children's books as "all of the major environmental problems can be traced to people – more specifically, to too many people"; and the idea of "people pollution," with its implication that human beings are to be considered in the same category as other objectionable waste matter.

Such flamboyance is not unique to those concerned about population growth, of course. Many important social movements have had their extremist elements, which have frequently been a source of considerable embarrassment to those who consider themselves to represent the "responsible mainstream." Nor, for better or worse, has extremism invariably been counterproductive. It appears to have served well those who oppose abortion, for instance; and it is possible to wonder how much of the past two decades' progress with respect to population growth could have been achieved without at least some of the oversimplification and exaggeration that has occurred.

The Perils of Extremism

But extremism has its perils, too. Particularly when allowed to dominate the way in which a movement is perceived, it invites the kind of adverse reaction now being seen.

Statements such as those cited earlier cannot be said to dominate the population movement in the sense of representing the views of most professionals active in the field, to be sure. But thus far, those disagreeing with them have largely chosen to remain silent out of a desire to maintain the united front thought necessary for the advancement of a still-controversial idea, out of a willingness to accept extremism in the pursuit of virtue, or out of contempt. As a result of such silence, exaggerated statements of the sort Simon cites – many of them by unusually distinguished and influential people – have gained a prominent and unchallenged place in the public record; and it is not surprising to find them taken as representative of mainstream thinking on population matters.

To permit exaggeration to occupy such a prominent place may have seemed very well when it was working. But as the spreading influence of Simon's arguments illustrates, times have changed, and it is working no longer. If the population community is to maintain the credibility that is now being effectively challenged by a knowledgeable and articulate opposition, it will be necessary to bring the excesses of the past under control. This means a greater concern for accuracy and balance on the part of those discussing the problems associated with rapid population growth, and a greater willingness on the part of those disagreeing with inaccurate and unbalanced statements to speak out against them in order to prevent their being taken as representative. ☐

David R. Gwatkin is Senior Fellow at the Overseas Development Council, Washington, D.C.

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When using these projections, it is advisable to look at all possible causes for changes in the size of future populations. Afghanistan serves as a recent extreme case: previously projected to 37 million in 2000, the new Assessment now shows a projection of 27 million. This is not due to any fervent population policy on the part of the Afghan government, but is due to the fact that Afghanistan took its first census in 1979 and the count came out one-third lower than expected.

This publication has great value in that the important assumptions are published in detail so that users can see what may happen in particular countries given different scenarios, with the medium variant being somewhat more likely given the limits of present knowledge. This Assessment was undertaken using data available as of mid-1980; survey, census, or vital statistics which may have become generally available since that time are not, of course, included. ☐

World Population Trends and Prospects as Assessed in 1980 **(Sales No. E.81.XIII.8) is available for $9.00 per copy from the United Nations, Sales Section, New York, N.Y. 10017.**

Manual Explains Growth Planning

The Sierra Club has just completed a *Handbook on Population Projections – How They are Made and How They Make Themselves Come True*, a 130-page guide for those without demographic training on the use and misuse of population projections.

Because of the way they are prepared and used, population projections for communities are often *de facto* growth policies, helping to determine the type and location of growth.

The Sierra Club's Handbook explains the types of projections, how they are developed, and the people they are developed by and for. Discussed are the various ways projections are used in local growth planning, in development of air and water quality plans, and in determining the need and size of major projects such as water systems and highways. Included are checklists for activists and others concerned about evaluating the legitimacy of a projection. ☐

The Handbook is available to public interest organizations and individuals for $6 each, to government agencies for $9, and to businesses for $12. For first class delivery add $1.00. Send order and remittance to Information Services, Sierra Club, 530 Bush Street, San Francisco, Ca. 94108.

How Population Policy Evolves: Lessons from Latin America

by Ieda Siqueira Wiarda and Judith F. Helzner

Before foreign assistance became so common, there was much less support for developing-country population programs. In Latin America during the 1950s, the Eisenhower years, United States foreign policy consisted primarily of building up military assistance pacts. Foreign aid for economic development was seen as one more way to prevent internal insurgency and the threat of Communist subversion. Population growth was not yet perceived as a problem, and it was certainly not considered an area for which foreign aid from the United States was appropriate.

The 1950s were also the decade of field testing for new contraceptives, and in Latin America saw the beginning of an awareness about modern contraceptive technology among well-educated, U.S.-oriented private physicians and their upper- and middle-class clients.

In the 1960s, under Presidents Kennedy and Johnson, the United States began to see a role for itself in both development and population. The very way in which the stages of development were conceptualized at this time had a major influence on the type of policies and expenditures that resulted. Rostow's "five stages of development" proposed a model that considered the North American and North European industrializing experience as valid for the rest of the world. Large-scale foreign aid expenditures on major industrial and agricultural programs had as their philosophical underpinning the belief that increasing a country's gross national product would produce benefits that would eventually "trickle down" to the poor. The path to development was seen as one-track, predictable, and attainable by all countries.

Thinking and writing about population problems increased during the 1960s. As was the case for development theory during this period, the early works on population viewed the issue in sweeping terms, describing the negative consequences of rapid population growth. New scholarly models (such as Coale-Hoover, and Enke's "averted birth" concept) provided conceptual links for population and development trends. Population concerns moved from the status of being totally ignored to the point of being identified by some authorities as the main (or even the sole) aggravating factor in keeping nations from progressing to a higher stage of development.

By the late 1960s, these concerns had resulted in action: the identification of private physicians interested in population, and the establishment (often by these physicians) of family planning associations in many Latin American countries. These associations usually became affiliated with the International Planned Parenthood Federation (IPPF) and received direct and indirect funding and technical advice from U.S. sources. Controversies surrounding the use of contraceptives as well as ideological questions soon embroiled the fledgling associations and had the effect of preventing a smooth transition from private to government sponsored family planning services.

Family planning programs themselves were often led by male physicians, with a great emphasis on the medical aspects of reproduction and little or no appreciation of the fact that women had many other roles besides motherhood. In some countries, this myopic approach was exacerbated by the widespread perception that family planning was one more panacea foisted by Americans on ignorant Latin Americans, a panacea that served as a smokescreen for Americans' truly "imperialistic" designs to keep Latin America underpopulated, weak, and prone to control by the all-powerful North. In certain countries, such as Brazil, the family planning associations had to contend with a bitterly pronatalist and nationalistic opposition.

Seldom did any theorist or aid officer of that period consider the possibility that, contrary to *global* perspectives of increasing scarcities and of overpopulation, *local* family or individual perspectives might view modernization as a danger or children as good investments in the future. Women were not considered essential to the success of development programs, or to the resolution of the population equation.

In the 1970s, however, a number of forces combined to usher in a sobering period of rethinking. Slowly the possibility was raised that the First World did not have all the answers, that its experiences were not necessarily replicable or even desired by others, and that questions and answers lay ultimately with the Third World itself and with each man and woman. The traditional answers of the past began to give way to the recognition of the complex processes involved in development and population trends. Population research focused much more on the determinants of fertility than before, and both theories and programs were starting to be reformulated to fit local conditions, perceptions, and demands. Major development institutions shifted their attention to the needs of poor individuals for the first time. The slogan "They know how" ("they" being the Third World people themselves) began to be implemented as a philosophy, notably by the Inter-American Foundation. The great debate over population *versus* development expenditures lost much of its stridency.

At the same time, the assumptions and focus of both development and population policies began to change. The terminology of family planning programs changed to describe new attitudes: women were considered "acceptors" of services rather than "targets" of programs. While still expressing passivity, this new term at least began to show a willingness to recognize the woman as an individual whose rights, demands, and preferences were essential to the success of family planning clinics or of programs which delivered family planning services outside clinics.

By the end of the 1970s, the changes in old assumptions and theories had begun to influence the expenditure of funds for action programs. The stresses caused by rapid population growth in Latin America, along with the still limited availability of family planning services and for those services still limited successes, have heightened interest both in the socioeconomic factors that help determine birth rates and in the motivational factors that help determine whether or not the women will in fact have smaller families. Strategies for

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addressing these complex issues include: integrated projects (which address women's productive and reproductive roles simultaneously), the implementation of a "user's perspective" in family planning services, and the inclusion of management components for women within all types of development and population programs. These strategies have each been tried on a limited basis; they stand in striking contrast to the earlier, from-the-top-down orientation of foreign aid.

In addition, at least in Latin America, they are being implemented through organizations which already exist within the country and which already have similar interests, rather than being the result solely of outside funding and advocacy. For example, in Peru one finds local organizations and individuals involved in a variety of projects which demonstrate each of the strategies mentioned: a family planning organization has added training for women in plumbing and electricity to the services it offers in one area, a nurse-midwife is running a clinic and holding talks which are based in a busy market building, a women's organization in Lima is following up participants in a management course for women from all over the country.

The decade of the 1980s presents an opportunity for new perceptions about population, development, and women's roles to reinforce the emerging conclusion that *specific attention must be paid to women and their needs if policies and programs are to successfully meet their objectives.*

A specific concern for women is justified on a number of grounds. The fewer the number of children, the more time and demand for other activities on the part of the mothers (or conversely, the more life options for women, the higher their motivation to limit family size). The more responsive family planning programs are to the women they serve, the more satisfied the clients (and the better the program's results) will be.

On the development side, rationales for full participation by women include not only the equity principle, i.e., that women be treated equally with men, but also (and perhaps more important) the efficiency argument. That is, women are a valuable human resource which ought not be wasted or impaired by development efforts; greater involvement of women means both greater democratization and more rapid progress toward the attainment of development goals for the whole population.

In summary, in Latin America (as elsewhere), population theory and policy have evolved *from* a neo-Malthusian, "population bomb" perspective with simple, global answers about the role of fertility in the development equation, *to* the recognition that many interrelated factors help determine the levels of fertility (and of contraceptive use) in a country, and that the relationship between population growth and various development objectives is a complex one indeed. In addition, the prevailing views of women have evolved *from* their being seen as dependents of men and guardians of children making no unique contributions and requiring no special attention, *to* an awareness of the many crucial roles they plan in their own right and of the links between helping them improve their lot and speeding up the progress of their society.

With the passage of time and with the design of appropriate measures, we will be able to better evaluate the crucial importance of explicitly including women. For now, we have reason to hope that the 1980s can and must be the turning point in the implementation of new programs and perceptions that incorporate intimate and reinforcing links connecting women, development, and an effective population strategy. ☐

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This article is a brief summary of "Women, Population and International Development in Latin America: Persistent Legacies and New Perceptions for the 1980's," by Ieda Siqueira Wiarda and Judith F. Helzner, Occasional Paper Series No. 13, Program in Latin American Studies, International Area Studies Programs, University of Massachusetts at Amherst, April, 1981. Single copies of the complete paper are available free of charge from The Pathfinder Fund, 1330 Boylston Street, Chestnut Hill, Massachusetts 02167. The authors, who can be reached in care of The Pathfinder Fund, strongly suggest that those interested in this topic obtain the more comprehensive paper, and they are eager to receive comments on the ideas presented.

Kenya Launches New $120M Family Planning Program

A five-year rural health and population program is about to be launched in Kenya which will double the funds now being spent on population activities in that country.

The $120 million program, financed by the World Bank, the UN Fund for Population Activities, bilateral donors, and the Kenyan government, is designed to increase the level of family planning practice in that country.

Kenya's total fertility rate of 8.1 children per woman is among the highest in the world, and as death rates have fallen due to improving health services, the rate of natural increase over the past several decades has risen to about 4 percent annually. If this rate were to continue unabated, Kenya's 16.5 million population would double in the next 17 years.

Although Kenya has sub-Saharan Africa's oldest official family planning program (begun in 1967), only about 6 percent of eligible couples use modern contraception. The program is run through the country's network of health clinics, but these are too few in number and inadequately staffed and supplied.

In 1977 and 1978, a World Fertility Survey was carried out in the country. This survey revealed in detail just how high Kenya's fertility was.* The sobering findings gave the national government and population programs new impetus to try to contain the soaring Kenyan population growth.

Under the new five-year program, a major multimedia information and education campaign will be conducted, aimed at adults as well as schoolchildren, in an attempt to foster community population awareness. Staff training projects will be expanded, drug supplies will be increased, and communication and other support systems will be strengthened. A National Council on Population is being set up.

Under the new program, all of Kenya's 1,410 rural health outlets will be equipped for family planning. (Presently, only about half are so equipped.) ☐

*See PRB's *Population Bulletin*, "Kenya's Record Population Growth: A Dilemma of Development," by Frank L. Mott and Susan H. Mott, Vol. 35, No. 3, 1980.

Chronology of Major Population-Related Events in 1981

by Barbara Bower

Jan. 1 - World population at the beginning of 1981 is 4,455,000,000 (PRB estimate).

Jan. 1 - International Year of the Disabled begins, proclaimed by the UN General Assembly.

Jan. 4 - Indonesia announces preliminary total for the October 1980 Census: 147,383,075 people. Since 1971, the average annual growth rate has been 2.3 percent.

Jan. 22-23 - National Audubon Society sponsors a Population and Resources Leadership Conference in Washington, D.C. Leaders of 60 environmental and population groups call on the U.S. to develop a national population policy and a working capacity to anticipate national and international problems caused by population growth, resource depletion and environmental degradation.

Jan. - Mexico announces preliminary total for the June 1980 Census: 67,295,826 people. Since 1970, the average annual growth rate has been 3.3 percent.

Jan. - Argentina announces the preliminary total for the Sept. 30, 1980, Census: 27,862,771 people. Since 1970, the average annual growth rate has been 1.5 percent.

Jan. - Panama announces the total for the May 11, 1980, Census: 1,830,175 people. Since 1970, the average annual growth rate has been 2.5 percent.

□ □ □

Feb. 14 - The Centers for Disease Control in Atlanta, Ga., report that the incidence of malaria and tuberculosis in the U.S., which had been decreasing for 25 years, is now on the increase, partly because of an influx of Indochinese refugees.

Feb. 25 - Cambodia has now overcome the widespread starvation and serious malnutrition that have characterized the last few years of internal conflict, according to the UN's Food and Agricultural Organization. But that country still faces serious food supply problems.

Feb. - The Seychelles passes legislation legalizing abortion under certain limited circumstances: up to the 16th week of pregnancy; or later, in order to save the life or health of the women in cases where pregnancy would be the greater risk; when there is a substantial risk of handicap to the child; when pregnancy results from rape or incest; or if the woman is mentally unfit to care for a child.

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Mar. 1 - The U.S. Select Commission on Immigration and Refugee Policy submits its final report, including policy suggestions for ways of dealing with illegal aliens, ways of preventing illegal aliens from entering the country in the future, and ways of dealing with the refugee problem.

Mar. 1 - India conducts a national census; provisional results show a population of 684 million, indicating an annual growth rate of 2.2 percent during the last decade.

Mar. 2 - South Africa tries unsuccessfully to reclaim its General Assembly seat, which was revoked in 1974, as the UN body takes up a resolution calling for sanctions against the *apartheid* nation.

Mar. 7 - UN relief teams report that millions of peasants in the Chinese province of Hebei are suffering hunger, serious malnutrition, and infectious diseases as a result of the worst drought in 38 years; at the same time millions more in the southern province of Hubei are similarly suffering from health and food problems as a result of the worst flooding in 26 years. This is China's first international appeal for disaster aid since the Communist revolution in 1949.

Mar. 8 - International Women's Day – beginning of Women's History Week.

Mar. 11 - A Swedish relief team from the UN Development Program arrives in Uganda to distribute food and seed in the west Nile region, where 250,000 people are facing starvation.

Mar. 14 - Afghan refugees in Pakistan now total 1.7 million, according to the UN High Commissioner for Refugees, and prospects of resettling them are remote.

Mar. 20 - Seasonal flooding and a severe outbreak of measles have wreaked havoc in Somalian refugee camps housing about 1 million refugees from the Ogadan Desert, according to relief officials.

Mar. 23 - The U.S. Supreme Court rules that a state may require a doctor to inform a "dependent minor" girl's parents before performing an abortion on her or face criminal penalties, at least when the girl is still living at home and dependent upon her parents. In another case, the Court upholds the constitutionality of statutory rape laws that punish men but not women for sexual relations with a minor of the opposite sex.

Mar. 26-28 - 50th annual meeting of the Population Association of America is held in Washington, D.C.

Mar. - Bangladesh conducts a national census. Preliminary figures indicate a total population of 87,052,024 persons.

Mar. - Hong Kong conducts a census of popualtion, and reports a total of 4,851,500 persons.

Mar. - Pakistan conducts a national census. Preliminary figures indicate a total population of 83,782,000 persons.

Mar. - Sri Lanka conducts a national census, and reports a total population of 14,859,295 persons.

Mar. - Yugoslavia conducts a national census. Final figures indicate a population of 22,352,162 persons.

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Apr. 5 - Greece conducts a national census. The preliminary total shows a population of 9,707,000, up 10.7 percent from the 1971 census figure of 8,769,000.

Apr. 11 - The UN announces that the first international conference to help African refugees raised nearly $600 million, enough to provide food and shelter to the continent's refugees for the next two years.

Apr. 22 - The National Academy of Sciences passes a resolution asserting that it is not possible to answer in clear-cut scientific terms the question of when human life begins.

Apr. 23 - U.S. Senate hearings begin on the Helms bill, which proposes that human life shall be deemed to exist from conception. (If human life is considered to begin at conception, then the fetus will be given human rights and protected against abortion.)

Apr. 26-30 - International conference "Family Planning in the Eighties" is held by International Planned Parenthood Federation and Population Council in Jakarta, Indonesia.

Apr. 28 - The upper house of the Dutch parliament adopts a bill to legalize abortion, ending more than 10 years of political debate over the issue.

Apr. - Guatemala conducts a national census. Preliminary figures indicate a total population of 6,043,559 persons.

Apr. - The first official delegation visits China to discuss U.S.-Chinese cooperation in population social science research.

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May 6 - Agriculture officials in China report that one-third of Inner Mongolia's 18 million people and nearly one-half of its livestock have now been seriously affected by drought. Nearly one-half of the range lands have been rendered barely usable for grazing and one-fourth of the area's cultivated cropland yielded little or nothing in 1980.

May 18 - Italian voters reject, by a 2-to-1 margin, an anti-abortion proposal for which Pope John Paul II had personally campaigned.

May 21 - The World Health Organization votes on a voluntary international code restricting the marketing of infant formula and other breast-milk substitutes. The final vote is 118-1 in support of the code, with the United States casting the opposing vote. Backers of the code contend that the use of baby formula under unsanitary conditions that prevail in much of the Third World causes sickness and death.

May 26-30 - The International Planned Parenthood Federation's Programme Committee and the International Medical Advisory Panel hold meetings; special attention is given to male responsibility in family planning.

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June 3 - Canada holds national census. (See page 3 of this issue of INTERCOM.)

June 6 - The world's first test-tube twins are born in Melbourne, Australia. Amanda, 5.5 lbs., and Stephen, 4.95 lbs., are delivered by Caesarean section to Radmilda and Richard Mays. Minor heart surgery is performed on the boy as a temporary measure until he is old enough for more complex surgery.

June 6 - A total of 12.6 million people are presently refugees from their homelands or displaced from their homes within their native countries, according to a report released by the U.S. Committee for Refugees. The report also says that the focus of the world refugee problem is shifting from Southeast Asia to Africa and that conditions for refugees in Africa have reached life-threatening proportions.

June 14 - A UN report issued today predicts that the world's population will stabilize at 10.5 billion by the year 2110, a projection that is slightly lower than previous forecasts.

June 15 - Swiss voters approve by a large majority an amendment, supported by all political parties, that makes men and women equal before the law and mandates equal pay for equal work.

June 23 - Legislation approved by the Spanish parliament reintroduces divorce in Spain after a ban of more than 40 years.

June 29-July 30 - The UN Population Division symposium on Population and Human Resources meets in Vienna.

June - Nepal conducts a national census. Preliminary figures indicate a total population of 14,179,301 persons.

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July 6-9 - Parliamentary Conference on Population and Development in Africa, organized by UNFPA, meets in Nairobi.

July - The number of people the Intergovernmental Committee for Migration has assisted since 1952 passes the 3 million mark.

July - Peru conducts a national census. Preliminary figures indicate a total population of 17,031,221 persons.

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Aug. 12-Sep. 2 - Tokyo. Seminar on Medical and Health Aspects in Family Planning.

Aug. 15 - Police in Bogota, Colombia, uncover a multimillion dollar kidnapping ring in which hundreds of poor Andean children were bought from their parents and sold under forged birth certificates and adoption papers to childless couples in the United States and Europe.

Aug. - Botswana conducts a national census. Preliminary figures indicate a total population of 936,600 persons.

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Sep. 1-14 - UN Conference on the Least Developed Countries meets in Paris.

Sep. 1-18 - 19th Congress of the International Federation of Midwives meets in Brighton, U.K.

Sep. 20 - Belize severs ties with Britain and becomes an independent country.

Sep. 22-23 - 22 heads of state meet in Cancun, Mexico, to discuss appropriate ways in which aid from rich to poor countries should be handled—whether through the UN General Assembly or through organizations such as International Monetary Fund and General Agreement on Tariffs and Trade. Nothing is resolved but follow-up talks will be held at a later date.

Sep. 30 - Foreign aid donors announce that they will cut back their contributions to the poorest countries in proportion to any reductions made by the United States. Delegates attending a World Bank meeting in Washington agreed that the next few years will be especially hard on the least developed countries and that all countries must do more to help themselves.

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Oct. 5-11 - Planned Parenthood Federation of America's National Family Sexuality Education Week.

Oct. 8 - At a UN-sponsored meeting of crime experts from a dozen countries at Rutgers University, a questionnaire is designed to conduct the Second UN Survey of World Crime Trends and Crime Prevention Strategies. The survey will focus on which countries have low crime rates and will try to determine why this is so.

Oct. 14. - Maurice Williams, Director of the World Food Council, says food consumption will rise faster than output over the next decade and the number of people suffering from starvation and malnutrition will double to more than 1 billion.

Oct. 14 - The 1981 Nobel Peace Prize is awarded to the Office of the UN High Commissioner for Refugees for aiding the growing numbers of homeless and displaced people around the world.

Oct. 15 - Population Reference Bureau holds its 52nd Anniversary Awards Dinner in Washington, D.C.

Oct. 16 - World Food Day. Observances are held in 145 countries around the world to express compassion and concern for the world's hungry people.

Oct. 20-25 - UN Population Divison holds meeting in Bangkok, Thailand, on Levels, Trends, and Differentials in Mortality.

Oct. 24 - Diplomatic sources estimate that 2 million of Argentina's 28 million people are visiting consulates to inquire about emigrating. For the first time since independence 150 years ago, the number of people leaving the country exceeds the number entering.

Oct. 25-31 - 8th Asian Congress of Obstetrics and Gynecology meets in Melbourne, Australia.

Oct. 26 - A Michigan state legislator introduces the nation's first proposed law on surrogate mothers. It would empower Michigan probate courts to handle surrogate adoptions much as they process standard adoptions.

Oct. 27-30 - UNFPA-sponsored conference, "Asian Parliamentarians on Population and Development," meets in Beijing, where legislators from 19 Asian countries conclude by proposing that their governments work to hold Asia's annual population growth rate to 1 percent by the end of the century. China has cut its annual growth rate to 1.2 percent and hopes to limit population to 1.2 billion by the year 2000. However, the Conference organizers insist that other Asian countries are not being pressed to imitate China's authoritarian example for family planning.

Oct. 28-Nov. 1 - Planned Parenthood Federation of America holds annual meeting in Washington, D.C.

Oct. - One of Africa's most ambitious development projects begins—the construction of two dams and the irrigation of 927,000 acres in Senegal, Mauritania, and Mali over the next 50 years, at a cost of about $2 billion. Benefits are expected to include increased food production and hydroelectric power. Possible negative consequences: increases in malaria, decrease in annual fish harvests, displacement of more than 13,000 people, and increasing dependence on governments for traditionally independent families.

Oct. - U.S. resident population passes 230 million.

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Nov. 10 - A report to the UN Human Rights Commission estimates that there have been 9,250 political murders in El Salvador in the first six months of 1981.

Nov. 15 - In the first successful out-of-womb surgery, a medical team at the University of California in San Francisco removes a fetus eight months after conception from the womb, performs a critical operation and returns it to the mother's uterus.

Nov. 24 - The Minister of Justice announces that Canada's proposed new constitution will include recognition of equal rights for women and special rights for the nation's Indian and Eskimo populations.

Nov. 28 - Government-sponsored commercials advocating contraception appear on French television as part of the first public information campaign on contraception since birth control was legalized in France in 1967.

Nov. 30-Dec. 3 - Third White House Conference on Aging meets in Washington, D.C. Delegates oppose any further cuts in social security programs, favor elimination of mandatory retirement age and expansion of Medicare benefits, among many other recommendations.

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Dec. 2 - The Intergovernmental Committee for Migration approves plans to move 193,000 victims of the world's continuing turmoil to new homelands in 1982.

Dec. 4 - The U.S. government approves the sale of 20 IBM computers to China for use in conducting that country's 1982 population census.

Dec. 9-16 - 19th General Conference, International Union for the Scientific Study of Population, meets in Manila.

Dec. 26 - China predicts an increase of 7.5 million to 10 million tons in its 1981 grain harvest, despite a 6.4 million acre decrease in land planted to grain. Grain output has been rising by an annual average of 3.5 percent (10.5 million tons) in the last four years.

Dec. 28 - The United States' first test-tube baby, Elizabeth Jordan Carr, a 5 lb. 12 oz. girl, is born by Caesarean section in Norfolk.

Dec. 31 - The world population at the end of 1981 is 4,530,000,000 (PRB estimate). During the year over 125 million babies have been born, 50 million people have died, and humanity has increased by 75 million people, or 142 per minute.

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Pill May Reduce Pelvic Infections

The Women's Health Study, a project supported by the National Institute of Child Health and Human Development, confirms that women using oral contraceptives have a significantly reduced risk of contracting pelvic inflammatory disease. A bacterial infection that affects an estimated 850,000 women in the U.S. each year, PID can lead to infertility, or, in rare cases, death.

The NIH Record reports that the pill finding was actually a sidelight of the Women's Health Study, which was a large-scale evaluation of the side effects of another form of birth control, the IUD. One question addressed was whether IUD users have a higher risk of PID than women using the pill, barrier methods, other methods, or no contraceptives.

By examining the case histories of 1,400 hospitalized PID patients and 3,400 control subjects, researchers found that IUD users without a history of PID were twice as likely to contract the disease, compared with women using no form of birth control. Pill users, by contrast, had half the risk of women not using contraceptives.

Those who used the diaphragm or condom also had a reduced risk of PID, because bacteria do not readily cross these barrier devices. The exact method by which the pill protects from PID has not been determined.

The portion of the Women's Health Study data specifically related to the pill and PID were further analyzed by Dr. George Rubin, an epidemiologist for the Center for Disease Control. In a presentation to the CDC's Epidemic Intelligence Service Conference in April 1981, Dr. Rubin reaffirmed the pill's protective action against PID, stating that it "may be one of the most important noncontraceptive benefits of oral contraceptive use." Rubin estimates that the pill prevents tens of thousands of PID cases yearly.

positions/professionals

Faculty position in Population Planning, School of Public Health, University of Michigan, Fall 1982. The person selected for this position will hold a joint appointment in population planning and another academic unit in the School of Public Health, or another department of the University to be determined by the applicant's background and qualifications. The Program in Population Planning has an interdisciplinary faculty oriented towards population issues, both domestic and international, with a special focus towards policy and family planning programs. It offers degrees at both the masters and doctoral levels. Qualifications: doctorate degree in one of the social, health, or management sciences, a demonstrated research competence, and a substantive interest in one or more of the following areas: communication or counseling in family planning programs, social psychology of fertility, family sociology, demographic behavior, or program evaluation. *Salary:* dependent on qualifications of applicant. *Contact:* send application and selected samples of writings to Professor Gayl Ness, Program in Population Planning, School of Public Health, University of Michigan, Ann Arbor, Mich. 48109. The Program welcomes applications from minorities and women. Apply as soon as possible, preferably by March 15, 1982.

demographer's page

H. Yuan Tien, Professor of Sociology at Ohio State University, is currently at PRB as an Andrew W. Mellon Foundation visiting scholar.

One Boom Is Enough: The Demographic Education of China's Policymakers

By H. Yuan Tien

Sichuan, the most populous province of the People's Republic of China, quietly established in the early months of 1979 a system of monetary rewards to encourage couples to limit childbearing. Ahead of all other provinces, this 100-million population province under the leadership of Zhao Ziyang, who is now the Prime Minister in the national government, sought to induce couples with only one child to delay having another for four years or even until after the child's 14th birthday.[1] And so the now well-known "one child per couple" campaign made its provincial debut.

Shortly thereafter, Vice Premier Chen Muhua, head of the then State Council's Family Planning Leading Group, broached the subject for wider consideration. Speaking at the Central Party School on June 27, she related,

> "Comrade Chen Yun recently suggested that work be started on the 'one child per couple' idea and that the Politburo place the issue of bearing only one child under deliberation. Comrade Chen Yun proposed that couples be permitted to have only one child, to bear no more, and that health protection work be improved."[2]

Chen Muhua addressed the population question at the invitation of Hu Yaobang, Chairman of the Communist Party. Chen Yun, a party veteran of Long March standing, now heads the State Financial and Economic Commission. Powerful backing for the "one child per couple" proposal thus abounded at the very start.

However, the initial consensus of the leadership seems to have been to make the introduction and implementation of "one child per couple" gradual though time-specific. A draft of a preliminary law on this matter was prepared for internal discussion among party members and others concerned across the country. Meantime, Chen Muhua also publicly outlined the schedule and steps as follows:

> "In order to bring the natural increase rate down to around 5 per 1,000 by 1985, we must first reduce and then altogether eliminate the phenomenon of multiparity rates, and promote the practice of couples' limiting themselves to only child. At the present time, third and higher parity births account for about 30 percent of total births... Let us strive to prevent virtually all third-parity births by 1985. If we succeed, there will be 5 million fewer births per year than there are now, the crude birth rate will decline to about 13 per 1,000 (from 18), and the natural increase rate will go down to below 7 per 1,000 (from 12). If we further consider and put into effect the policy measures favorable to an increase in the proportion of first-parity births, the natural increase will probably decline to about 5 per 1,000 by 1985."[2]

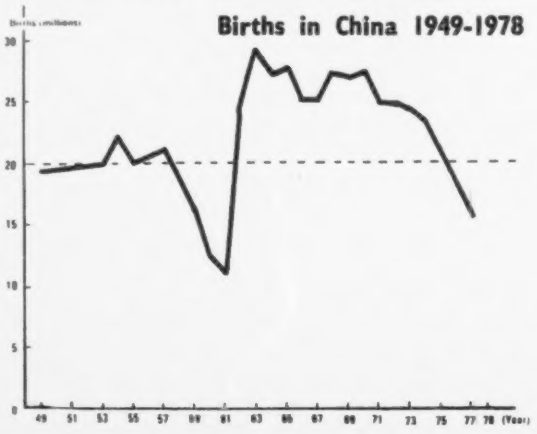
The draft was submitted to the Fifth National People's Congress in August 1980 but was not enacted into law. However, various provinces had already followed the Sichuan model and the terms of the proposed national act and adopted their own "one child per couple" regulations. In addition to penalties to be meted out to couples who have exceeded the reproductive norm, monetary incentives and other benefits are provided for the only children and their mothers.[3]

As of now, it is national policy to encourage couples to have only one child[4] even though the time apparently is still not ripe for an overall national legislation. Furthermore, the Central Committee of the Chinese Communist Party has also called on all members and those of the Communist Youth League to set a national example for others to follow.[5]

This open call to party and league members to heed and disseminate the one-child family ideal contrasts sharply with the 1950s. Population optimism then prevailed, and leaders confidently predicted that the material and cultural needs of the large and growing population would be met in the foreseeable future. However, economic difficulties ensued, engendering deep misgivings about the country's ability to speedily improve the people's standard of living unless population growth was retarded. As Chen Muhua put it in 1979, the troubled situation in China reflected "not only insufficient output but also population pressure."[6]

Developing the "One-Child" Policy

Clearly population optimism had ebbed. But the altered outlook took some time to take shape, as did


Births in China 1949-1978

the emergence of the "one child per couple" policy. Repairs of the damage caused by unchecked population optimism required the resumption of population data collection and analysis. More important, they made imperative the formulation of theoretical guidelines that explain China's economic difficulties and simultaneously uphold socialism. In the latter connection, "grasping the two kinds of production at the same time" has now become the supreme principle.

As Xu Dixin, President of China Demographic Society, put it, for the national economy to develop in a planned and balanced fashion, human beings must plan their own reproduction as well as material production.[7] By this formulation, China's economic difficulties were laid to, among other things, the "anarchical population growth" of the immediate past. That is, failure to include "population production" in the national economic plan had led to the neglect of the proportional relationship between the "production" of human beings themselves and material production.[8]

Along with this reformulated perspective, various accounts of the adverse impact of rapid and large population increase and of frequent births appeared. The information focused on both the aggregate consequences for the national economy and the burden on individual couples. For example, in the area of consumer goods, according to Chen Muhua,

> "with over 900 million persons, even a small rise in each individual's demand will produce a shockingly large aggregate figure. (Moreover) at the present time, the cost of raising an infant to 16 years of age is about 1,600 yuan in rural villages (1 yuan = $.60), 4,800 yuan in medium-sized cities and small towns, and 6,900 yuan in large cities... Based on these figures, the accumulated total cost to the state, the collective, and families of raising the 600 million persons born since liberation has been more than 100 billion yuan – or about 30 percent of the accumulated total national income over those years."[9]

As a corrective to past neglect and as part of the efforts to aid future economic development, China opted to reduce population growth under the general plan of "wan, xi, shao" (later, longer, fewer) in the early 1970s. At first, the third ingredient of this approach was defined in terms of the Zhou Enlai model of "One is not too few, two are good, three are too many;" the 2-child family appears to have been then the ideal. However, in a few years' time, the specifications of "shao" were quickly scaled down to "one is best" and then to "one is enough." Out of this downward revision emerged the now renowned "one child per couple" model.

The Coming of the "Baby Boom"

Vital Statistics of the People's Republic of China

Year	Rate			Net Increase (in millions)
	Birth	Death	Natural increase	
1949	36	20	16	– –
1950	37	18	19	10.29
1951	37	17	20	11.04
1952	37	17	20	11.82
1953	37	14	23.0	13.14
1954	38	13.2	24.8	14.70
1955	32.6	12.3	20.3	11.99
1956	31.9	11.4	20.5	13.63
1957	34.0	10.8	23.2	18.25
1958	NA	NA	NA	NA
1959	32.6	NA	10.2	6.77
1960-62	NA	NA	NA	NA
1963	43.4	10.1	33.5	NA
1964	39.3	11.5	27.8	NA
1965	38.1	9.6	28.5	NA
1966	35.2	8.9	26.3	16.68
1967	34.1	8.4	25.7	18.26
1968	35.8	8.3	27.5	21.66
1969	34.3	8.1	26.2	21.37
1970	33.6	7.6	26	22.07
1971	30.7	7.3	23.4	23.37
1972	29.9	7.7	22.3	19.48
1973	28.1	7.1	21	20.34
1974	25.0	7.4	17.6	16.48
1975	23.1	7.3	15.8	15.61
1976	20	7.3	12.7	12.97
1977	19	6.9	12.1	12.57
1978	18.3	6.3	12.0	12.85
1979	17.9	6.2	11.7	12.83
1980	NA	NA	12.0	11.63

Sources: Tian, Xueyuan, 1981: Tables 4, 5, 6, & 8. Hou, Wenruo, 1981: Tables 11, 12, 13, & 14. Discrepancies exist between these two sources in the original publication. Where they differ, data from Hou are reproduced here.

NA = data not available.

As can be readily seen in the table, the recession of population optimism closely followed what may be appropriately called the first Chinese "baby boom" of contemporary times. At least three early-1960s years recorded birth rates visibly higher than any during the late 1950s, but birth rates during the rest of the 1960s either resembled or were actually lower than those of the prior decade. However, the much-reduced death rates of the 1960s pushed natural increase to high levels unprecedented since 1949. The brief but sharp jump in births in 1963-1965 and the much higher rise in annual net population gains in 1968-1973 clearly made the 1960s the Chinese "baby boom" decade.

The number of births for 1949-1978 are shown graphically on the accompanying chart.[10] Leaving out both the deep slump in 1959-1961 (which may well have been caused by defective birth registration) and the steep decline after 1974 (which reflects recent successes in population planning programs), two very different fertility patterns are evident: Relative stability characterizes the years 1949-1957, and "baby boom" aptly describes the years 1962-1973.

The 1964 Census of China placed the total population at 694.58 million,[11] and the estimated 1970 population was 825.42 million.[12] In this period of six years, the reported net gain amounted to 130 million. Chen Muhua and others stated in 1981 that since liberation, some 440 million people were added to the population.[13] By this account, then, nearly 30 percent of the net gain occurred during the years 1964-1970, inclusive.

Another "Baby Boom"?

In 1980, China adopted a new marriage law, which stipulates that the legal minimum age for marriage be 20 for women and 22 for men, respectively. This means that the women and men of the "baby boom" generation would reach marriageable age in the 1980s.

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The implications of their massive numbers seem clear: national population planning could not achieve the desired result if each and every couple were merely to reproduce themselves. In all probability, as many as 12-14 million marriages are projected to occur each year during the 1980s; even if all couples heeded the "one child per couple" policy, the marriages would raise the Chinese birth rate and rate of natural increase far above the projected fertility goals of the national plan, including the goal of achieving a rate of natural increase of 5 per 1,000 by 1985 and zero growth by 2000.

As a case in point, some 6,730,000 marriages actually took place in China during the first six months of 1981, as compared with 3,260,000 marriages during the same period in 1980. For 1981 as a whole, the number of marriages is expected to reach 14 million. A second "baby boom" thus is a distinct possibility.[14]

The intensified efforts since the 1970s to reduce fertility undoubtedly were prompted by a desire to correct past mistakes and to aid the attainment of China's economic objectives under the "four modernizations." But China's demographic realities also make it imperative that the fertility behavior of the tens of millions of couples not be overlooked in national economic planning. Otherwise, the second "baby boom" would dwarf the first by significant margins. The institution of the various family planning programs in general and of the "one child" policy in particular thus represents a keen appreciation of, and a demographic response to, the past fertility peaks. Hopefully, these measures will serve to attenuate, if not avoid, the second boom.

The implications of past fertility patterns have evidently convinced China's policymakers that one boom is enough – enough to make them opt for a "one child" policy. Thus, it is not too much to say that Chinese population specialists have accomplished a great deal in the few years since the revival of population studies. And that the demographic education of China's leadership is one of their most significant achievements to date.

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Pronatalism in East Europe

Continued from page 1

per woman, which was the 1980 *average* for the 17 major countries of Western Europe, where fertility has plummeted in the past decade, as it has in the U.S., where the rate was 1.8 in 1980. And no Eastern European country registered fewer births than deaths in 1980, as West Germany did.

However, David feels the latest evidence of renewed fertility decline in at least Bulgaria, Czechoslovakia, and Hungary casts doubt on the notion that Eastern European experience might guide other developed countries concerned about low fertility as to how public policies might influence private reproductive behavior. A psychologist and director of the Transnational Family Research Institute (Bethesda, Md.), David has written and conducted extensive research on fertility behavior in the nine socialist countries of Eastern Europe.

Abortion Policy and Cash Benefits

Ahead of most Western nations and following the lead of the Soviet Union where abortion was reliberalized in 1955, all the socialist countries except Albania passed laws permitting abortion on broad social grounds or on request, though full liberalization was delayed to 1972 in the GDR. "The subsequent surge in legal abortions was perceived as a direct, powerful cause of the unintended and unwelcomed fertility decline," David observes. Policymakers warned of future labor shortages, aging populations and even "national demographic suicide."

Romania took the most drastic action – curtailing both imports of contraceptives and access to legal abortion with a month's notice in November 1966. In nine months the birth rate tripled, from 12.8 per 1,000 population in December 1966 to 39.9 in September 1967. Romania's birth rate has drifted down since then but was still 18.6 in 1979 – considerably higher than the 14.3 average for 1966.

Bulgaria, Czechoslovakia, and Hungary have also tried mild restrictions on abortion. But in general, most of these countries have opted for "positive" pronatalist cash incentives, David reports. In addition to "quasi-wages" for mothers who stay home with young children and increased birth grants and family allowances, especially for second and third children, these include extensions of fully (or almost fully) paid maternity leave up to six months in several countries and low-interest loans to newlyweds to buy and furnish homes which run as high as $5,200 in Czechoslovakia and are written off progressively with the birth of each child.

The cash incentives have been largest in Bulgaria, Czechoslovakia, Hungary, and the GDR, David reports. Romania and Poland have not been as generous, though Poland has still seen a rise in its birth rate to 19.5 in 1980 – the highest in the region, except for Albania. In the USSR, fertility actually fell only from 2.8 births per woman in 1960 to 2.3 in 1979, but Soviet policymakers have worried especially about the gap between low fertility in the ethnically Russian regions of the country and high fertility in the Muslim Central Asian republics. However, pronatalist incentives were left at the low level set in 1948 until last year when new measures to stimulate fertility were written into the 11th Five Year Plan (1981-85), to be introduced first in the low-fertility regions of the country.

Tiny, maverick Albania has no pronatalist cash incentives but bans both contraceptive supplies and abortion (except to save a woman's life). Alone among the nine countries, Yugoslavia remains neutral on reproductive matters, with a declaration in its federal constitution of 1974 that "it is a human right to decide freely on childbirth."

Panorama DDR

A family in East Germany

Other Factors Outweigh Incentives

Like most observers, David feels that "the main impact of cash benefits paid to parents or prospective parents has been to encourage couples to have first and second births sooner than they otherwise would, without stimulating the resurgence in third and higher order births that would be necessary to ensure a marked upturn in population growth." He points out also that the pronatalist effect of the incentives tends to wear off and people begin to take them for granted as "social welfare benefits" if they are not increased regularly to keep pace with rises in wages and prices.

It is also evident that Eastern European couples quickly adjust to abortion restrictions by practicing more efficient contraception or resorting to illegal abortion. That the region's low birth rates are still achieved mainly with abortion is suggested by surveys showing that the "unreliable withdrawal method" remains the chief method of contraception, except in Hungary and the GDR which have succeeded in popularizing the pill.

David sees the position of women as the key to understanding why Eastern European couples have generally resisted official efforts to raise family size beyond one or two children. "In line with socialist ideology which stresses the equality of women and men and the need for women's labor to boost economic growth, women's labor force participation is higher in most of these countries than anywhere else in the developed world," he notes. But the emphasis on equality in the job market does not extend to the home. Women are still saddled with the full burden of child care, shopping, and all other household tasks, which are complicated by continuing shortages of child-care facilities and consumer goods and services.

"In the USSR, the time a working wife must devote to shopping, cleaning, and cooking in addition to her regular job can add up to an exhausting 13 to 15 hours a day," he reports. One Leningrad survey found only 3 percent of husbands willing to stand in line to shop for food. In Poland in 1980, even before the worsened conditions of winter 1981-82, women were averaging over two hours a day waiting in line at shops.

Continued on next page

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 62 countries, will appear in INTERCOM as results become available. Copies of the WFS Country Reports may be obtained from the World Fertility Survey, 428 Prinses Beatrixlaan 2270 AZ Voorburg, Netherlands.

Trinidad and Tobago

Trinidad and Tobago, a two-island nation just seven miles off the coast of Venezuela, has recently released its Country Report of the World Fertility Survey conducted during 1977. The country's process of independence from the Commonwealth culminated in September 1976 with the achievement of the status of a Republic. A long history of involvement with European powers has left its mark on Trinidad and Tobago's ethnic structure. Few vestiges are left of the original population of Arawak and Carib Indians. Today the country's population is composed primarily of the descendants of former African slaves (40 percent) and of indentured servants from India (also about 40 percent) who arrived after slavery was abolished in 1834.

While the country has taken great strides in the movement from a plantation-based economy to one which derives much of its income from the mining and refining of oil and other natural resources, the government is concerned with possible negative effects of population growth in a finite space and a more even distribution of income. The government has established a Population Council whose goal was to lower the birth rate to 20 births per 1,000 by 1980 and is at the same time concerned with the emigration of skilled labor. Family planning services have been available since 1956 and are now found in both public and private clinics throughout the country.

Due to the rather long history of contraceptive availability in the country, the survey's finding that a high proportion of women who said they had used it at least once is not surprising. All in all, 78 percent of the women stated that they had used contraception, including inefficient methods such as withdrawal. The tendency to use a method showed many of the relationships with other variables observed in other settings. Women with a secondary or higher education were more likely to have contracepted while Hindus and Muslims were less likely than Anglicans. These gaps tended to close with increasing parity; as the less-educated women had several births, the likelihood of their using a method increased.

Currently, women "exposed" to the risk of pregnancy (i.e., with a partner, not pregnant, and fecund) evidenced fairly high proportions of use, but the percent not using is also significant. About 60 percent of the exposed women said that they were using a method with the vast majority of those using an efficient method, particularly the pill or condom. One indicator of the decentralized availability of services is the very small difference in the percent contracepting between urban and rural areas in this Delaware-sized country, 61 and 59, respectively.

The Trinidad and Tobago WFS also provides an estimate of the total fertility rate (TFR), a measure which, based upon present birth rates, estimates the number of children women eventually have. Based upon the WFS, this rate is estimated to have declined from 4.8 children per woman in 1966 to 2.5 in 1976. These results are somewhat different from the official vital statistic rates in the country which indicate that the TFR was lower in 1966, 4.1 and did not decline as much as the WFS rate (to only 3.1 by 1975); these differences will be studied further.

When questioned as to the number of children they considered "ideal," women in Trinidad and Tobago gave an average of 3.8. The number given was lowest for women in their early 20s, 3.4, and highest for those who have completed their childbearing, those over 45, 4.7 children.

Some doubt about fertility trends in the country may have resulted from the unexpectedly low count produced by the May 1980 Census. This count, 1,067,108, was about 100,000 below previous estimates of the population. Comparing this to an adjusted 1970 Census count of 1,026,750 (the Census was adjusted since political conditions at the time hampered the enumeration) gives the impression of very little population growth during the 1970s. The answer to the questions raised by these counts is not yet known, but is probably in part due to different levels of accuracy in the census and possibly more emigration than had been thought.

With a relatively low birth rate, and an expanding economy, Trinidad and Tobago, is a progressive member of the Caribbean community, but some questions remain on the country's demographic trends.

Continued from preceding page

Chronic housing shortages also help dampen Eastern European fertility. Sixty percent of engaged couples queried in a Czech survey said they expected to live with their parents after marriage and 25 percent expected to live separated from each other. In Sofia, Bulgaria, couples are often not allocated an apartment of their own until the wife is over 30, "by which time there is much less interest in reproduction," David notes.

He emphasizes that the pronatalist economic measures are "fully justified on humanitarian grounds" since they help to keep the living standards of young couples with children comparable to those of other social groups. "However, their demographic effect appears to be limited," he concludes.

Among his numerous publications, Henry David is the author of *Family Planning and Abortion in the Socialist Countries of Central and Eastern Europe*, published by The Population Council in 1970. His *Bulletin* draws on his recently published monograph, *Reproductive Behavior: Central and Eastern European Experience* (Springer Publishing Co., 1981), coauthored with Robert J. McIntyre. ☐

Additional copies of his 47-page *Bulletin*, "Eastern Europe: Pronatalist Policies and Private Behavior" (Vol. 36, No. 6) can be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013 at $3.00 each; 2-10 copies $2.30 each; 11-50 copies $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin's* 16 charts and tables (including frontispiece map) are available at $8.00 per set. Orders of $20 and under must be prepaid. A $1.00 handling charge should be included for orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered to cover postage and handling.

world food news

Food Reserves Down

The drought in Africa and Southeast Asia and the world food crisis of the early 1970s awoke the world to the fact that many developing countries had no food reserves to call on in times of disaster. To provide such a cushion against mass hunger, the International Undertaking on World Food Security was endorsed by the FAO in 1973. Countries adhering to the Undertaking pledge "to help ensure a minimum safe level of basic food stocks for the world as a whole in time of crop failures and natural disasters." Eighty-two governments and the European Economic Community have now subscribed to the Undertaking.

A plan of action to implement the International Undertaking was subsequently proposed by FAO in 1979. This encourages nations to build up food stocks and particularly emphasizes regional reserves—cooperative efforts among several developing countries in the same area.

But not enough is being done to attain such food security. FAO considers that the world should hold about 18 percent of annual cereal consumption in emergency reserves distributed across the world. Edouard Saouma, Director-General of FAO, has warned that during the last two years the world has consumed more cereals than it produced. Consequently, cereal stocks have fallen to 14 percent of annual global consumption and these reserve stocks are dangerously concentrated in the warehouses of a few major producing nations.

Dramatic crises such as earthquakes and other disasters focus world attention on starving populations. For many other millions, however, hunger is a fact of life. Last year, according to the World Bank, there were 780 million people too poor to buy enough food. In an article in *Ceres*, the review on agriculture and development published by FAO, Paul Harrison, an English writer on development problems, analyzed the reason why, in a world which produces enough food for all, there are still many who go hungry. He saw the answer as distribution—or rather maldistribution—based on a variety of inequalities.

"Malnutrition is perhaps the saddest of the many diseases of poverty," he writes. "The poor need food, but they lack the money to buy it or sufficient land to produce it for themselves. They cannot translate their needs into effective demand in the only terms that the market understands: cash."

Harrison found that the problem sprang from social injustices both within and between countries. International inequalities, he wrote, have contributed to low incomes in developing countries and to low and uncertain returns to farmers for their export cash crops. Within countries there are inequalities between urban and rural areas, between men and women, and between rich farmers on the one hand and the smallholders, tenants and landless on the other. These inequalities depress food production below its potential, he observed. They are also a major cause of poverty, which in turn generates hunger and disease.

Emergency Food Status

Almost three-quarters of international emergency food aid allocations in 1981 were made to overcome man-made disasters. The food was channeled through the World Food Programme (WFP), which was established under the joint auspices of the United Nations and the FAO. WFP uses food aid principally in "food for work" development projects as well as for nutritional improvement programs and emergency food relief.

According to WFP figures, out of 50 emergency food aid operations totaling $166 million during the first 10½ months of 1981, almost three-fourths, or $124 million, were used to help refugees, displaced persons, and others affected by civil disturbances. (The World Food Programme collaborated with the UN High Commissioner for Refugees on these operations.)

The aid was largely for Afghan refugees in Pakistan and for homeless and displaced persons in Somalia. The remaining emergency aid was for help in the wake of natural disasters, such as floods or drought.

In 1979, costs related to relief projects for refugees and displaced persons stood at 57 percent of total expenditures for emergency aid. The percentage rose to 62.4 percent in 1980 and almost to 75 percent for the first 10½ months of the following year. Kampuchea was the main beneficiary of emergency aid in 1979 and 1980.

WFP also acts as coordinator of large international food aid operations, assuring rapid delivery of basic foodstuffs, such as edible oil, wheat, and maize, from bilateral and other donors. It also copes with the logistics involved in getting food aid from the source to the intended beneficiaries.

The decline in emergency food aid allocations to victims of natural calamities may be due to fewer flood and typhoon disasters in recent years and restraint in the use of emergency food aid in cases of recurrent crop failures. Lately, WFP development food aid has increasingly been used instead of emergency assistance to augment food and agricultural production in countries facing crop failures.

The bulk of multilateral emergency food aid is now provided through the International Emergency Food Reserve (IEFR), which was established by the UN General Assembly to bolster WFP operations and which has, for the first time since its creation in 1975, reached its target level of 500,000 tons of food annually. A good part of the IEFR contributions was earmarked by the donor countries mainly for refugee relief. ☐

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: October 1981

	12 months ending with October			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,642,000	3,595,000	15.9	15.9
Deaths	2,000,000	1,972,000	8.7	8.7
Natural increase	1,642,000	1,623,000	7.2	7.2
Marriages	2,432,000	2,416,000	10.6	10.7
Divorces	1,217,000	1,182,000	5.3	5.2
Infant deaths	43,100	45,400	11.8	12.6
Population base (in millions)	...	...	228.9	226.7

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 30, No. 10) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

SCIENTIFIC-TECHNOLOGICAL CHANGE AND THE ROLE OF WOMEN IN DEVELOPMENT, edited by Pamela M. D'Onofrio-Flores and Sheila M. Pfafflin. Boulder, Colo.: Westview Press, 1982. $25.00. ISBN 0-86531-154-5.

Originally prepared as working papers of the United Nations Institute for Training and Research, this collection of articles by six women scholars takes a concerned look at the effects of science and technology on the role of women in both industrialized and less developed or "peripheral" countries. The authors claim that women suffer because of socioeconomic phenomena, but mainly because Western-style profit motive and concern for efficiency allow too little room for the reproductive role of women in the labor force. Where women's work is regarded as seasonal or occasional because of childbearing and childrearing, there is often a lack of training opportunities for women and they are denied access to such resources as property and capital. As a result, women with low skills move in great numbers into the tertiary (i.e., service) sector of the labor force whose development accompanies the development of industry and its close-following companion—bureaucracy. As population increases, it is the tertiary sector that absorbs much of the growing supply of laborers. One might easily view women's widespread employment of any sort outside the home as a solid building block toward equality, but author Bergom-Larsson cautions this foundation is a weak one. She points out that in Sweden, a model industrialized country, an estimated 60,000-90,000 jobs (largely in the tertiary sector) had disappeared by 1975 as a consequence of spreading computer technology. As such "simple" jobs are eliminated by advancing technology, there arises a clear need for higher competence among women to insure their significant role in the work force. In the domestic sphere, the authors assert that housekeeping equality is a faraway goal in many countries, including industrialized ones. Even considering available labor-saving technology for the household and women working outside the home, studies worldwide show there has been little or no decrease since 1930 in the amount of time women spend on unpaid labor, usually in the home. In addition, an estimate from one more developed country indicates that between 70-80 percent of its male population never participate in such chores as laundry, food preparation, or household cleaning. Co-editor Sheila Pfafflin rallies the common voice of the papers in a concluding essay in which she calls for the vigorous involvement of women in the fields of science and technology. The women recommend that the UN urge governments worldwide to provide equal educational and training opportunities for women, discourage discrimination, and encourage women to assume positions of influence as science policymakers.

—Terrice Bassler

THE ALIEN UNDER AMERICAN LAW: Text, Materials, Cases, by A. Peter Mutharika. Dobbs Ferry, N.Y.: Oceana Publications, 1980. $75.00. ISBN 0-379-20341-3. LC 80-18236.

This book brings together for ready reference the principal instruments and cases—both federal and state—that have attempted to define the legal status of the various categories of aliens within the U.S. As such, it is an extremely useful guide for lawyers, government officials, officials of international organizations, legal researchers, and others who are interested in how the U.S. deals with the question of alien residents. Prepared in separate binders, five topics are included in Vol. I: General Rights and Disabilities; Aliens and Equal Protection; Access to Economic Activities; Access to Government Controlled Resources; Acquisition and Ownership of Property. Each of the five topics begins with a fairly comprehensive "Note" which discusses the legal issues and decisions pertaining to that particular topic. Following the "Note" are excerpts from statutes and cases that have attempted to define the status of aliens. A second volume is forthcoming and will cover such topics as: Tax Obligations; Military Obligation; Special Categories of Aliens; and Undocumented Aliens. In sum, this is a useful guide for persons concerned with the status of aliens as presently defined by American law.

—Leon F. Bouvier

AUSTRALIA'S IMMIGRANTS, 1788-1978, by Geoffrey Sherington, Sydney, Australia: George Allen & Unwin. 1980. 189 pp. $9.95 ISBN 086861-018-6.

MIGRANT CRIME IN AUSTRALIA, by Ronald D. Francis, St. Lucia, Australia: University of Queensland Press, 1981. 217 pp. $20.65 ISBN 0-7022-1561-9.

Australian society, created by immigrants, continues to be affected by the entrance of new migrants because of the relatively low rate of natural increase. Two new volumes, written from different perspectives, examine the phenomenon of Australian immigration. **Australia's Immigrants** is a social history of the settlement of that country from the 1780s to the present time, with particular attention given to the massive waves of immigration of the 18th and 19th centuries. The author discusses the conditions in the British Isles which fostered policies, first of transportation of criminals and later of free immigrants. These settlers, stresses Sherington, carried their "cultural baggage" along with them, and, although many were social misfits in their native land, their instincts and values were unmistakenly English, leaving an indelible stamp on the new territory. This persisted even after immigrants from other parts of Europe and the world began to arrive. Sherington uses personal letters and individual life histories (perhaps too frequently) to show the kinds of people who immigrated to Australia; their motivations and their reactions to the life they encountered there. He includes some discussion of the inequities in wages and occupational status among migrant groups and the native Australians, gaps which have widened as non-English speaking people account for a larger proportion of the immigrants.

In **Migrant Crime in Australia,** criminologist Ronald Francis begins with a succinct history of Australian immigration and the treatment of migrants in the criminal justice system. Francis comments on the formation of distinct class barriers beginning with the first settlers and states that "the early categorization of migrant criminals had an enduring effect upon the development of Australian society." Although some progressed economically, freed convicts retained the stigma of their previous lives. This is corroborated by evidence from Sherington that despite the high ratio of men to women in colonial Australia, freed female convicts were considered undesirable marriage partners even to the offspring of other convicts. For most of his analysis, Francis makes use of official records, prison studies, and previous research, summarized in statistical appendices. Generally he finds that present-day migrants have lower crime and incarceration rates than the native born, including their own Australian-born children. The author also looks beyond the statistics, seeking an explanation of these patterns of criminal behavior, and devotes an entire chapter to the "cultural conflict hypothesis." With less enthusiasm, he includes a discussion of alternative hyoptheses of migrant crime behavior ranging from genetics to differences in nonverbal communication.

Both books are also of interest as studies of the implementation of explicit and selective immigration policies. Both trace the policy shifts as the perceived immigration needs of the country changed, and discuss some of these policies, social and economic consequences.

—Mary M. Kent

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What the World Fertility Survey Shows So Far

by Jean van der Tak

Contraception is catching on and fertility is declining significantly in many countries of Latin America and Asia, but sub-Saharan Africa remains untouched so far.

That is the picture of the Third World's fertility situation drawn in PRB's *Bulletin* for March, "The World Fertility Survey: Charting Global Childbearing," written by demographers Robert Lightbourne, Jr., and Susheela Singh of the London headquarters staff of the World Fertility Survey, with the assistance of population-communications expert Cynthia Green of the Population Crisis Committee, Washington, D.C.

Begun in 1972, the World Fertility Survey is producing the first reliable profile of global childbearing (see box, page 13). And the new *Bulletin*, which includes findings from 29 developing countries that have now published their individual WFS results, constitutes the broadest summary yet published of the WFS-sponsored surveys.

In sub-Saharan Africa, where previously only Kenya had published its WFS survey, findings are now also available from Lesotho, Senegal, and the northern part of Sudan. The Middle East is now represented by three countries (Jordan, Syria and Turkey), Asia by 10, and Latin America by 12 (see table, page 12). In addition, the *Bulletin* includes the first data – on contraceptive use – released from a study by the UN Economic Commission for Europe which is comparing results from WFS-type surveys in 16 of the 20 developed countries participating in the WFS.

Fertility Declining But Still High

WFS surveys illustrate fertility trends by comparing the average number of children among ever-married women aged 45-49 with the average size of completed families expected for all women now of reproductive age, calculated from total fertility rates at the time of the surveys. The *Bulletin* authors point out that, on that score, fertility has dropped by at least one child per woman in Asia, Latin America and the Middle East, but not at all in sub-Saharan Africa (see table).

However, current fertility ranges from 4.6 children per woman in Latin America to 6.7 in sub-Saharan Africa – far above the 2.2-to-2.5 children per woman average needed to end these countries' population growth in the long run. By the

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That's 'Bloom,' Not 'Boom'

> *"Currently expecting: Jill Clayburgh, 37; Sissy Spacek, 32; Mimi Kennedy, 33; Blair Brown, 32; Donna Summer, 32—"*
> – *Time* magazine, Feb. 22, 1982

"The New Baby Bloom" was the subject of a recent *Time* feature story: the decision by many career women to have babies while the going was good, including the celebrities listed above and actress Jaclyn Smith, who appeared, pregnant and glamorous, on the magazine's cover.

The *Time* article informatively described a new national phemonemon and style. But the demographic explanations, and a dramatic graph showing crude birth rate trends, may have given some readers the mistaken impression that a new baby *boom* (as opposed to "bloom") is coming down the tracks. So perhaps a review of relevant U.S. fertility trends is in order:

1. *There is no baby boom reflected in current figures.* the most recent U.S. birth rate reported by the national Center for Health Statistics is 15.9 births per 1,000 population, as of November 1981. This is the highest birth rate in the last decade, but does not represent any abrupt upward trend. It is far below the 25.3 birth rate in the U.S. at the peak (1957) of the classic baby boom that ran from 1947 to 1961.

2. *There are more women of childbearing age.* Thanks in part to the baby boom, the proportion of women in the childbearing ages is greater; i.e., more of the population consists of women capable of bearing children; this places upward pressure on the birth rate.

3. *Total fertility has increased, but only a little.* The total fertility rate (TFR) measures the total number of children a woman would have during her lifetime if, hypothetically speaking, she produced babies at each year of her life at the same rate as women (at each age) actually produced babies during a given year.

The TFR of the U.S. has not changed much in the past decade. It was 2.0 in 1972 dropped to 1.8 in 1976, and is now up to 1.9. (In the period 1955-1959 it was 3.7.)

The number of children a woman must produce in order to replace both parents in a population is slightly above 2. When, and whether, U.S. fertility will ever rise to this replacement level again is an open question to most demographers.

4. *Later childbearing is happening, but not enough to dramatically change the statistics.* Some women in their late 20s and 30s are having a baby on a "now or never" basis, but the distribution of mothers' ages at birth has remained essentially the same. "Delayed childbearing" has caused only a small fluctuation in the overall birth rate or total fertility rate.

6. *The proportion of women at childbearing age is slowly rising and will peak in the mid 1980s.* Thereafter it will fall. But around the year 2000 the increased number of daughters it produced will themselves reach childbearing age, and even with stable fertility rates, births will again increase somewhat as a second "echo" of the classic baby boom of 1947-61.□

Should Parents Be Notified?

Proposed Teen Contraceptive Rule Draws Fire

A proposed government regulation would require federally financed family planning clinics to notify parents when their daughters under 18 receive prescription contraceptives.

Previous legislation stipulated that federally financed clinics offer their services to adolescents. A 1981 provision to that law "encouraged" family participation in birth control programs. And it is on the basis of that family-participation language that Health and Human Services Secretary Richard S. Schweiker proposed the new regulation.

In testimony before the House, Schweiker said that by having the government supply contraceptives confidentially to teenagers, "we've built a Berlin wall between the kids and the parents."

"This is Big Brother getting into the bedrooms of the people," replied Rep. Henry A. Waxman (D-Ca.). (It was Waxman who wrote the original family-participation language, and he had previously said the new proposal is a "complete violation of . . . the congressional intent behind it.")

"You put Big Brother government between the parent and the child," Schweiker replied to Waxman.

The regulation would require family planning clinics that receive federal funds to notify a girl's parents within 10 days that she had been provided with family planning services, and to deny further services unless the parents' notification was verified.

Reactions were sharply divided. Supporters of the proposal, such as Sen. Orrin G. Hatch (R-Utah), commented that "notifying parents when prescription drugs or devices are provided to their unemancipated children represents a moderate, common-sense approach."

One organization, the American Life Lobby, complained that the proposed regulations should have required "prior written *consent* from the parent before contraceptives were given to minors."

Critics of the regulation, like Rep. Waxman, argued that the regulation would mean "more pregnancies and abortions" because girls would not go to clinics for contraceptives if doing so would result in their parents knowing. Bearing this view out is a recent Alan Guttmacher Institute study finding that if such conditions were put on obtaining contraceptives, 26 percent of teenagers would not apply for contraceptives, but only 2 percent would stop sexual activity. (A number of groups have come out in opposition to the proposed rule, including the American Medical Association, the American Nurses Association, the American College of Obstetricians and Gynecologists, the YWCA, the Girls Clubs of America, and the National Urban League.)

Administration official Marjorie Mecklenberg sought to answer some of the criticism the proposal has drawn, when she spoke at the annual meeting of the National Family Planning and Reproductive Health Association, held in Washington, D.C.

Mecklenberg is Director of the Office of Adolescent Pregnancy Programs in the Department of Health and Human Services, and also serves as Acting Deputy Assistant Secretary of Population Affairs. She is probably best known as a long-time activist of pro-life causes. Her comments were anticipated as an indicator of how this administration proposes to move on issues of family planning, abortion, and other population-related social issues.

She asserted support for family planning as a "basic human service" and reiterated the administration's opposition to abortion. She reaffirmed the policy of devolving many human services to the states and supporting them with federal block grants.

She said that they would like to see fewer teens sexually active; however, if teens were active, they wanted them to use contraception safely and effectively. Regarding the proposed regulations, she said she was aware of concern over workability and possible cost of the notification procedure. She was concerned about those girls who might not come to family planning clinics because of parental "involvement" (i.e., notification). But, she said, while "we recognize that some parents don't want to know . . . in the case of disruptive school behavior, drug use, delinquency, parents must not shirk their responsibility for involvement. There are few cases where parents can be exempted from knowing." And she said that parents should be involved in cases where their children are being prescribed prescription drugs and devices, e.g., the pill and diaphragm. (The proposed regulations provide one area where parental notification is not required: treatment for venereal disease at family planning clinics is totally confidential.) ☐

Does Female Fertility Fall After 31?

A new, massive French study indicates that female fertility may decline more sharply after age 31 than had previously been assumed.

The study followed 2,193 fecund women who wished to become pregnant and were receiving artificial insemination at 11 French clinics because their husbands were sterile. Each clinic patient received artificial insemination at the same frequency at the same point in the ovulation cycle, and using the same technique.

Because each insemination patient received the same treatment, results for all could be compared. This is in contrast to any survey of conception among women who had husbands able to father children; results in such a survey would be vastly complicated by such variables as age of husband, patterns of coitus, etc.

The study was conducted by Federation des Centres d'Etude et de Conservation du Sperme Humain (CECOS), and reported in the *New England Journal of Medicine*.

After 12 cycles of insemination treatment, the pregnancy success rates for women in different age groups were:

Age Group	Success rate (%)
Under 25	73.0
26-30	74.1
31-35	61.5
35-40	53.6

Pregnancy rates are generally considered to be lower for artificially inseminated women than for couples whose partners are both able to produce children, all factors being equal. So the actual percentages reported above are not as significant as the pattern of dropoff from 26-30 to 31-35. And

Continued on next page

PAC Awards Salute the Best Population Journalism

It was, as one speaker said, "a very overpopulous occasion."

The occasion was an overflow luncheon Mar. 12 to present the Annual Awards for Media Excellence in Population Reporting. The place: the U.S. Capitol in Washington, D.C. The purpose: to recognize the best population journalism appearing during the last year, and by doing so, to encourage future media coverage of population events and issues.

The luncheon was sponsored by the Population Action Council, a division of the Population Institute which endeavors to stimulate public and legislative awareness of, and action on, population issues.

Held in the Senator Mike Mansfield Room of the Capitol, the luncheon demonstrated that in Congress, at least, population interest cuts across ideological and coalition lines. Sen. Strom Thurmond (R-S.C.) presented the award for best U.S. television program, while Sen. Bob Packwood (R-Ore.) saluted the population community and bestowed awards along with Sens. Dan Quayle and Richard Lugar (both R-Ind.), Rep. Jonathan Bingham (R-N.Y.), and Sen. Arlen Specter (R-Pa.), who told the assembled audience of population, Congressional, and media people that "the PAC honors the U.S. Senate by holding their awards here."

The presentation of the awards themselves (brass plaques) was hosted by Mary Dent Crisp, the new chairperson of the Population Action Council, who succeeded Stewart Mott. Among the presenters was Rafael Salas, Director of the UN Fund for Population Activities, who told the audience that population assistance had been the most successful of the U.S.'s foreign aid programs. Also presenting awards were Ambassador K.R. Narayanan of India, and Ambassador Abudu Yesufu Eke of Nigeria, as well as Rodney Shaw of the Population Institute and Werner Fornos of PAC.

The Cable News Network's one-hour documentary "A Finite World" won the award for best television program on population. (It was shown on Cable TV in January 1982.) Ted Turner, president of Turner Broadcasting System, accepted the award and pledged that his news network would "bring the issue of the relationship of ever increasing resource shortages, environmental degradation, and overpopulation into the forefront of American thinking." He said that "A Finite World" would be made available gratis to national television networks. CNN, whose producer, Barbara Pyle, covers population issues and produced "A Finite World," will make four more population documentaries including an upcoming program on China.

Ted Turner (left), founder of the Turner Broadcasting System, accepts the award for best population program on U.S. television from Sen. Strom Thurmond (R-S.C.). Barbara Pyle (center), the program's executive producer, and Mary Dent Crisp, who chairs the Population Action Council's governing committee, look on. PAC sponsored the award.

The *New York Times* received the media award for best population coverage by a major U.S. newspaper, for "prominent coverage of the interrelationship between overpopulation and development."

Other newspaper winners included Mexico City's *Excelsior*, Oslo, Norway's, *Aftenposten*, the *News Journal* of Wilmington, Del., and, as best non-English daily, the *China Daily News* of New York City.

The Associated Press won first place as the most conscientious news service for its coverage of population problems. Individual efforts honored at the luncheon included the *Washington Post*'s economic correspondent Hobart Rowen, reporter Alan McConagha of the *Minneapolis Tribune*, correspondent Michael Littlejohn of Reuters, editorial writer Clarke Thomas of the *Pittsburgh Post-Gazette*, and cartoonist Charles Werner of the *Indianapolis Star*.

Two notable international awards went to Televisa of Mexico for the best international television program, by Jaime Maussan and Armando Guzman, and a runner-up award for the *China Daily*, an English language newspaper published in Beijing that was cited for best developing-world coverage; accepting the award was Yuan Xian Lu, the *Daily*'s Washington correspondent.

The most notable aspect of the media awards luncheon is that it happened at all. Population is seldom the stuff of lurid journalism, and never has the *New York Post* run a front page headline: "'Birth Rates Nudge Downward,' Demographer Cautiously Concludes." But population events, insofar as they have important consequences, require appropriate news coverage. The luncheon demonstrated that population issues are indeed being reported in the media; and, to judge by the interested audience that packed the Mansfield Room, that message is getting through.

Continued from preceding page

it should be emphasized that even among the more-than-35-to-40 group, more than half became pregnant.

The conventional wisdom has been that female fertility peaks at 25 and remains high until 35, an editorial in the *Journal* commented. What this wisdom is based upon is unclear, as previous studies of fecund couples (though subject to the control problems outlined above) have found that female fertility may be at its highest at age 24, and begin to decline at 30 years.

The new study comes at a time when women are participating more in the labor force and often choosing to postpone pregnancy (and when after-30 pregnancy has acquired a new chic). It is possible that many pregnancy-postponement decisions have been made on the basis of the "conventional wisdom"; if so, the new study's results may help couples plan their families on the basis of more accurate data.☐

U.S. Abortions Rose in 1980, But at Slower Rate

Some 1.55 million legal abortions were performed in the U.S. in 1980, according to a new report by the Alan Guttmacher Institute. The figure is based on the seventh survey, conducted in 1981, by the AGI of all known abortion providers, including hospitals, clinics, and physicians. The results are reported in the Jan./Feb. 1982 issue of *Family Planning Perspectives.*

The figure represents a slowing in the growth of both total abortions and the abortion rate. The number of reported abortions in 1980 rose by only 56,000 over the year before, while the rate of 30.0 abortions per 1,000 women aged 15-44 years was only 0.7 points above the previous year's rate. (That is, about 3 percent of women in that age group obtained an abortion during the year.)

With spontaneous abortions and still births included, about 30 percent of pregnancies end in abortion.

Although the rate of growth may have slowed, the number of abortions each year does continue to increase, and the AGI sees a link between this increase and the rising rate of unintended pregnancies. According to estimates, in 1978 some 55 percent of the 5.6 million pregnancies occurring that year were unintended; just under half of these were ended by induced abortion; the rest resulted in births or miscarriages.

Why has the rate of unintended pregnancy increased? The AGI researchers think the answer is probably "a widespread shift away from the most effective methods of contraception." They report reasearch showing that the proportion of U.S. women using the pill may have fallen by as much as one-fourth between 1975 and 1978. IUD use is also thought to have decreased.

Other factors in the rise: an increase in the number of unmarried women who are sexually active and a possible change in the proportion of unintended pregnancies that end in abortion.

Access to Abortion Varies

Seven years after the Supreme Court decision legalizing abortion, the AGI study found that 59 out of the country's then-305 Standard Metropolitan Statistical Areas had no medical facilities or physicians reporting abortions; while 78 percent of all counties had no such facilities. In those counties live 26 percent of all U.S. women of childbearing age. (In Mississippi, North Dakota, South Dakota, and West Virginia, fewer than one-quarter of such women live in counties with abortion facilities.) California and New York (which contain about 18 percent of the U.S. population) accounted for about 30 percent of all reported abortions.

Restrictions on federal funding of Medicaid abortions also seem to limit the number of abortions performed. Summarizing the present situation, the AGI reports that presently 14 states and the District of Columbia fund medically necessary abortions for poor women. (Eight states and the District do so as a matter of public policy, while six states do so because of court orders in pending legal cases.)

Where Abortions Are Performed

Whereas in the early 1970s, some 52 percent of abortions were performed in hospitals, by 1980 this majority had dropped to 22 percent because of technical advances in abortion procedures. The vast majority (74 percent) in 1980 were performed in clinics, while 4 percent were performed in physicians' offices. Some three-quarters of all legal abortions in the U.S. took place in the 459 clinics and hospitals which provide 1,000 or more abortions a year.

Abortion Surveillance Report

In February 1982, the Centers for Disease Control published the annual Abortion Surveillance Summary. The CDC's provisional totals are usually lower than those reported from the Alan Guttmacher Institute, because the CDC summary is based on figures reported by state and local health agencies, while AGI's is based on an exhaustive survey of abortion providers.

The Abortion Surveillance found a provisional total of 1,238,987 legally induced abortions in the U.S. in 1979, a 7 percent increase over 1978. The abortion ratio was 358 abortions per 1,000 live births, an increase of 3 percent over 1978. □

World Pop. Meeting in 1984

The UN is making ready for the 1984 International Conference on Population, still some two years off. The Conference is slated to be a follow-up to the landmark World Population Conference that met in Bucharest in 1974.

Dates and location of the Conference have not been decided. The main consideration now is raising funds from donor countries to hold the conference.

In January UN Secretary General Javier Perez de Cuellar named UN Fund for Population Activities Director Rafael M. Salas to serve as the Conference's Secretary General. Leon Tabah, the Director of the UN Population Division, was named the Conference's Deputy Secretary General. □

Jogging as Birth Control. A physician in Ireland has written in the *New England Journal of Medicine* that running habits may affect fertility in young women.

Dr. Colm O'Herlihy of Dublin's National Maternity Hospital reported two female patients in their mid-20s who had not menstruated for over a year after they stopped using oral contraceptives. One jogged about 15 miles a week; the other, about 18 miles. Neither responded to treatment by clomiphene citrate a fertility-inducing drug. But when they stopped jogging and were given the drug, ovulation resumed.

These are two anecdotal cases, O'Herlihy says, but they suggest that jogging may lead to temporary infertility because it reduces body fat. The reduction of body fat in turn has already been found to cause a fall in gonadotropin secretion, which in turn causes ovulation and menstruation to cease.

African Officials Express Attitudes About Population Growth

by Leonard H. Robinson and
Suzanne E. McLees

Over the past decade fertility has declined substantially in several Asian and Latin American countries, such as Colombia, Costa Rica, Sri Lanka, China, and Indonesia. In Africa, however, all evidence points to accelerating population growth.

The International Development Study Center (IDSC) of the Battelle Human Affairs Research Centers (HARC), under sponsorship by the Agency for International Development (AID), recently conducted a study to examine African attitudes regarding family planning and to seek specific recommendations for U.S population assistance to certain African countries.

Selected for the study were two English-speaking countries – Lesotho and Tanzania – and two Francophone countries – Senegal and Togo – each with different cultures, traditions, and geographic settings, but all experiencing rapid population growth and related problems. Between March and July 1981, carefully selected groups of government and private opinion-makers in these countries were interviewed in depth in order to record and objectively analyze their thoughts, beliefs, and recommendations.

The assessment of the findings was enhanced by the assistance of an African Advisory Committee composed of eight respected African scholars, physicians, demographers and public professionals, who met in advance in Nairobi to discuss the study's objectives and methodology.

Perceived Causes

The respondents perceived several causes of rapid population growth in the four countries, including:

1. vast improvements in health care, including delivery and accessibility;
2. improved sanitary conditions and the provision of potable water supplies;
3. increased life expectancy;
4. reductions in infant and child mortality; and
5. strong traditions and customs favoring large families.

Additional factors were cited as reasons for particular population trends in each country. For example, in Lesotho, emigration to gold and diamond mines in South Africa, improved health care services, gradually declining mortality, a traditional preference for large families, Basotho cultural values, a strong Catholic influence, and the government's perceived "laissez-faire" attitude toward population issues were mentioned.

Tanzanians cited improved medical and health care facilities which have reduced infant and child mortality and lengthened the average life span for men and women as the major cause of rapid population growth.

Most respondents in Senegal attributed population growth directly to the influence of Islam, specifying that the Koran prohibits the use of contraceptives and encourages polygyny.

Respondents in Togo mentioned the repatriation of Togolese nationals who had emigrated to other African countries to seek employment, and rising nationalism fostered by recent economic gains and international recognition, for example, the selection of Togo as the location of the Economic Community of West African States headquarters.

Effects

Concerning the effects of rapid population growth, the following population issues were deemed significant by the respondents in all four countries:

- The rapid growth of cities, due in part to a large influx of migrant laborers from rural villages in search of work and better economic opportunities, is a very real concern. Every respondent bemoaned this fact and appeared somewhat at a loss for solutions.
- Agricultural land currently under cultivation is overtaxed; this is one cause of declining agricultural production. It is felt that such rapid population growth has hastened both rural-to-rural and rural-to-urban migration, causing a reduction in agricultural productivity.
- With increased government interest in improved and expanded maternal and child health care in addition to family planning services, infant and child mortality is falling; however, it is still very high. Life expectancy has also increased, thus widening the dependency ratios in each country, which currently range from 45-50 percent of the population below the age of 15, and accompanying a growing percentage of elderly nonproductive citizens.
- The unchecked movement of people is a problem. In some cases, it is an issue of immigration and emigration; in others, rural-to-urban migration is the main issue, not only in terms of urban congestion and the corresponding burden on municipal services, but also in terms of the negative impact on food production.
- There is concern to provide education for all who want it and, consequently, for sufficient jobs to ensure the full employment of every citizen. Primary and secondary schools are overcrowded and improperly staffed; teachers and textbooks are in short supply. This is indicative of limited financial resources, and as the population grows, so will the magnitude of these problems.
- There is a traditional preference for large families. As in Africa as a whole, fertility is high, with total fertility rates in the four countries ranging from 5.4 to 6.5 births per woman, despite some decrease in crude birth rates for Togo and Tanzania.
- Culturally, there appears to be a breakdown in traditional values and mores, especially as people move to urban environments and families become less close. This is resulting in an increase in pregnancies out of wedlock and an increasing incidence of illegal abortion.
- Politically speaking, in some countries, especially Togo, there is a strong feeling that a rapidly growing population is a

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This article is a summary of "Analyze African Official Attitudes, Opinions, and Recommendations Concerning U.S. Population Assistance: A Summary Report of Four Case Studies – Lesotho, Tanzania, Senegal, and Togo," published by Battelle Human Affairs Research Centers under Contract AID/afr-C-1702.

Continued from preceding page

positive factor. It is seen as a yardstick for measuring national confidence and maturity, as well as clout in the international community. Low population densities could also explain the lack of concern for a steadily multiplying population.

- In Senegal, interviewees spoke of large numbers of unemployed youths who often turn to crime, or lose confidence in government and become "latent time bombs" for fomenting revolution.

None of the four countries in the study have official pronouncements or policies to slow down or stabilize population growth. Not only are there no overt policies designed to encourage the practice of family planning or child spacing, but there were no indications in any of the countries that demographic variables were effectively integrated into socioeconomic planning processes.

What emerges from these studies is clear evidence that official policymakers and planners are not conversant with the linkages between population growth and economic development. Thus, there is no appreciation for the role family planning can play in the process of development, or the positive impact the integration of population variables into development planning could have won the process. In the absence of education and exposure to these and other factors, officials tend to remain aloof and basically opposed to population policy as defined in the west.

Possible Solutions

The final information gathered from the survey pertains to recommendations offered by the respondents to USAID population assistance. Below is a composite reconstruction of statements by the Africans interviewed in Lesotho, Tanzania, Senegal and Togo:

- Population assistance programs should be developed in response to needs as articulated by government officials, not by the international donor community.
- Family planning should not be promoted alone or in lieu of other development oriented programs. Most donors focus too narrowly on family planning as a solution to a country's development problems.
- Family planning should be integrated with maternal and child health care delivery and expanded specifically to rural areas. Additional training of nurses and midwives in MCH and family planning is required to facilitate these efforts.
- There is a crippling lack of accurate and reliable demographic data for use in sound socioeconomic development planning. In addition, ample cadres of statisticians, demographers, and other technicians trained to analyze such data are not available. Therefore, training assistance from AID and other donors is urgently required.
- Politicians, policymakers, and planners are not fully conversant with or receptive to linkages between population dynamics and development. Workshops and seminars need to be designed to fill this void.
- Male attitudes are consistently opposed to family planning, especially in Lesotho and Tanzania. Special information and education programs are needed for men, to heighten their awareness and acceptance of the health and economic advantages of family planning. This is especially critical, since men directly influence the size of families.
- Respondents suggested long-term assistance to ensure continuity and self-sufficiency when donor funding eventually terminates.
- There is a lack of adequate and relevant social science research and analysis, the data of which could be used for more effective development planning, in particular, the impact of population growth on development sectors such as agriculture, housing, labor force, education and health care. Assistance is required to help local dissemination of findings and recommendations.
- AID should utilize African talent and expertise, where feasible, for specific technical assistance inputs, instead of bringing in expatriate technicians.

Conclusion

In July 1981 the first Parliamentary Conference on Population and Development in Africa was held in Nairobi, Kenya, attended by parliamentarians from throughout Africa. Central to the outcome of the conferences was recognition of the necessity to integrate population variables in all aspects of economic planning.

Five years ago such a conference on population and development issues in Africa would have been difficult, if not impossible, to convene. The fact that the conference was held is indicative of the heightened awareness of population dynamics, and the increasing recognition and acceptance of the link between demographic variables and official socioeconomic development objectives. The Conference also served to demonstrate that Africans are determined to establish for themselves the appropriate measures and policies required to address the issues and problems of population growth, including the provision of family planning services and the role of population assistance in development planning.

If the understanding of, appreciation for, and concerted action vis-a-vis rapid population growth is not fully galvanized by the official political leadership in Africa, the continent will suffer greatly in the years to come. LDC officials must allocate a sufficient proportion of their national budget to the support of family planning services through ministries of health and local, private institutions. There are already indications that international population assistance will become increasingly limited. Unless members of the international donor community commit themselves to the vital task of enlisting the support and political commitment of African politicians and decisionmakers, through policy initiatives and projects similar to the one described in this article, population and family planning programs will remain small-scale. Moreover, when and if the supply of international donor funds diminishes, family planning, initiated through the most difficult of circumstances, will cease to become the positive force it should be throughout Africa.□

positions/professionals

Chief Publications/Information for international private agency in New York, to head communications department of 13, reporting directly to the vice president. *Qualifications:* must have managerial experience in publishing and printing with thorough understanding of professional scholarly marketplace. Must be able to deal with public and policymakers. Public relations background a plus. Excellent communications skills necessary, knowledge of global population issues and interest groups very helpful. Excellent benefits package. *Salary:* open. *Contact:* Betty Joyner, The Population Council, One Dag Hammarskjold Plaza, New York, N.Y. 10017.

demographer's page

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Fertility, Immigration, and Isopops

by Thomas L. Espenshade and Leon F. Bouvier

The stable population model has long been basic to demographic analysis. Although relying on a hypothetical population, it nevertheless indicates what the age distribution and the vital rates, including the important intrinsic rate of natural increase[1], would be under certain unchanging conditions of fertility and mortality.[2] Yet, despite the tremendous amount of work based on the stable model, two aspects have received scant attention: the conditions of stable populations with negative intrinsic growth rates and what happens when immigration is added to the model.

Much has been written about the appearance and the long-range implications of a population with a positive stable rate of growth, but little is ever said about negative intrinsic growth rates or their consequences. While it is easy to conceptualize a positive intrinsic rate of growth, it is perhaps more difficult to visualize the effect of a negative intrinsic growth rate, which eventually leads to absurdly small populations, and ultimately to extinction.

The U.S. intrinsic rate of growth has been negative for most of the past decade. Rather than concentrate on stationary or zero population growth models, as has been the custom, it might be more useful to construct a model of long-run population decline – assuming for the time being no immigration. The zero population growth model may be irrelevant in this era of below-replacement fertility. Yet it is still viewed by some as a desirable national goal, but in fact U.S. fertility would have to climb some 15 percent to arrive at the level needed for the attainment and maintenance of a stationary population over the long run, assuming no immigration. Thus, we might more profitably devote our attention to studying stable population models with negative growth. As Westoff recently stated: "If zero population growth turns out to be passed in the night and negative growth appears to be the course of the future, one can expect revolutionary social changes in the 21st century."[3]

There is a problem with such extrapolations of negative growth, however demographically interesting: they are assumed to occur within the context of closed populations. But given the present flow of immigrants into the U.S., it seems clear that a negative intrinsic rate of growth should be examined simultaneously with immigration. The combination of these two variables yields interesting and unanticipated results.

The Isopop Concept

The following question is sometimes posed to demographers: "If fertility remains below replacement, what is the annual level of immigration needed to attain eventual zero population growth?" Or the converse: "If immigration amounts to *x* thousands annually, what total fertility rate is needed to attain zero population growth?"

Few demographers have addressed this intriguing question. Basing his comments on Census Bureau projections, Bouvier wrote in 1975: "Perhaps 1.7 should replace 2.1 as the magic number for zero population growth. With legal immigration at its present level, that is the average number of children per woman needed for the country to attain zero population growth before the middle of the 21st century."[4] Westoff has concluded: "In the U.S., the volume of immigration would have to be about twice as high [that is, about 800,000 per year] as the present legal total in order to avoid eventual negative growth."[5]

Coale, in his report for the Commission on Population Growth and the American Future, addressed the issue in some detail. In explaining his calculations he stated: "I shall examine the adjustment in fertility that would be necessary to accommodate a continuing flow of immigrants at a constant rate and still maintain a stationary population. I will also examine the size of the stationary population that would result with continued migration if fertility were adjusted to a level that nevertheless made a stationary population possible."[6]

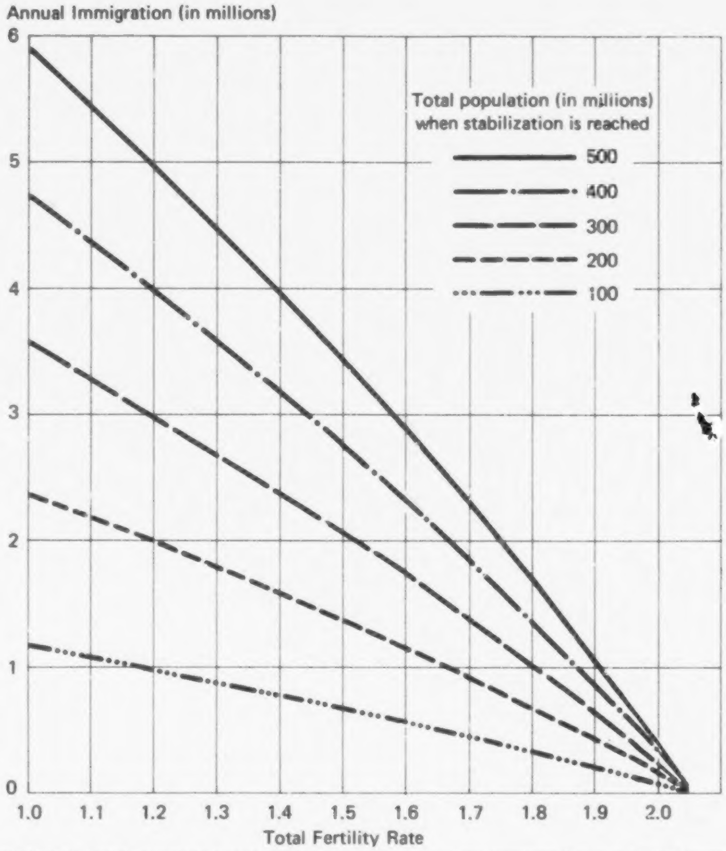
All these statements, while technically correct, seem to imply that certain levels of fertility and/or migration are needed to arrive at eventual zero population growth. However, closer inspection of the twin phenomena of negative intrinsic rates and constant levels of immigration has led us to a different conclusion: IF *ANY* CONSTANT NEGATIVE INTRINSIC RATE OF NATURAL INCREASE IS PRESENT TOGETHER WITH *ANY* CONSTANT LEVEL OF IMMIGRATION, A *STATIONARY* POPULATION EVENTUALLY EMERGES AS THE ULTIMATE "STABLE POPULATION."

This conclusion implies that different combinations of below-replacement fertility and immigration can lead to populations of identical size. Economists have coined the phrase "isoquants" to show the alternative pairs of values for capital and labor that yield the same total output for a given production function. In like manner, we may employ the phrase "isopops" to show the locus of points, relating different pairs of fertility and immigration levels, corresponding to stationary populations of equal size.

How Isopop Works

At first our conclusion might seem to violate common sense. How can unlimited immigration result in zero population growth?

Let us suppose, for example, that an eventual stationary population of 300 million is considered desirable for the U.S. Such a demographic goal could be reached by following a number of possible alternative patterns. Immigration of 3 million per year coupled with a total fertility rate (TFR) of 1.2 would yield a stationary population of 300 million, as would immigration of just over 1 million and a TFR of 1.8. All possible pairs of immigration and fertility that result in a specific eventual stationary population lie along a smooth curve (see figure). We call these smooth curves "isopops." They indicate the various combinations of immigration and fertility needed to attain certain ultimate stationary population goals.



ISOPOPS. Points on each line represent combinations of net immigration and fertility producing equivalent total populations at stabilization.

A simple argument shows how such a stationary population occurs. Imagine a country divided into halves so that all the population alive at the point in time when fertility (below replacement), mortality, and immigration become fixed, together with their descendants, reside in the western portion. And suppose that immigrant arrivals after this date, together with their descendants, live in the eastern half. It is easy to see that the population in the western half is of no consequence in terms of the long-run size of the total population, because it eventually dies away. This is so because it is a closed population (we assume no migration between eastern and western halves) and because its fertility rate is below replacement. Thus it has a negative stable growth rate and faces long-run extinction.

The population in the eastern half behaves differently. It, too, has a net reproduction rate less than 1 (indicating fertility below replacement), but the population's growth is fueled by the *annual* influx of a constant number of immigrants (whose age distribution we assume is also constant). To visualize what happens, it is useful to think in terms of generations. Immigrants themselves constitute the first link in the chain. We refer to children of immigrants who are born in the eastern half as "first-generation" descendants of immigrants. Grandchildren of immigrants are "second-generation" descendants, and so on.

Now if immigrants arriving in the eastern portion of the country can be thought of as landing in previously uninhabited territory, the first point to observe is that after not too much time elapses, there will be a stationary population of immigrants. The process by which this stationary population of immigrants is created is strikingly analogous to the creation of an ordinary life table stationary population. In life table terminology, if l_0 is the annual number of births and if this number is repeated each year, and if age-sex mortality rates are constant, then a stationary population with T_0 persons is eventually created. Our stationary population of immigrants is built up in exactly the same way, with the added feature that immigrants may be "born" or introduced into the population at any age.

A stationary population of immigrants implies that the number of female immigrants in the childbearing ages is fixed. If these women are characterized by constant age-specific fertility rates, they will then produce a constant annual number of first-generation births. Once the annual number of first-generation births is constant, a stationary population of first-generation descendants begins to be created, in a manner now identical to the ordinary life table stationary population.

The reader should now recognize the remainder of the argument. A stationary population of first-generation

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descendants produces a constant annual flow of second-generation births. These births eventually form a stationary population of their own that in turn leads to a constant annual number of third-generation births, and so on.

Therefore, the long-run population in the eastern portion of the country consists of a series of separately identifiable stationary populations: one of immigrants themselves, one of their first-generation descendants, one of second-generation descendants, one of third-generation descendants, and so on down the line. As long as net reproduction rates are less than 1, the population of each generation of descendants, beginning with the first, will fail to replace itself. Thus, the stationary population of second-generation descendants will be smaller than the stationary population of first-generation descendants. There will be fewer third-generation persons than in the second generation, and so on.

Eventually we will reach a point where enough generations separate immigrants from their later descendants that the number of such descendants belonging to any particular generation is negligible. In this situation, the size of the total population in the eastern half of the country, including the stationary population of immigrants themselves, is for all practical purposes constant. Since the population in the western half eventually dies away, we can be confident that the long-term outcome, combining both eastern and western halves, is a stationary population overall.

An Example

The overall population passes through several different phases on its way to zero population growth. Let us consider, as an example, the combination of fertility equal to a TFR of 1.8 and annual immigration of 1 million. The figure tells us to expect about 300 million persons in the eventual stationary population.

In the first phase, which lasts from 1980 to 2015, natural growth is positive, reflecting the relatively young age composition of the population. Thus growth occurs.

In the second, very brief phase, deaths begin to outnumber births as the population ages. However, the level of immigration exceeds the surplus of deaths over births. Thus growth continues.

The third phase begins in about 2035 when the population peaks. Natural decrease now surpasses immigration. Population size thus begins a long period of decline.

In the fourth phase, as the population becomes smaller, the level of natural decrease eventually approximates the level of immigration. No further decline in population size is possible and a long period of approximate stationarity begins.

The table illustrates the population size and vital rates attained under these assumptions on fertility and immigration as the U.S. population proceeds through the various phases on the path toward an eventual stationary population of 298,541,000.

Interestingly, the characteristics of the eventual stationary population depend solely on the demographic assumptions for the immigrants. Indeed, as long as the initial (resident) population in the west maintains fertility below replacement level, its actual fertility and mortality rates can be different from those of immigrants and their descendants in the east. Furthermore, the fertility of immigrants can be above replacement and still yield a stationary population in the long run, provided that their descendants eventually adopt below-replacement fertility.[7]

In conclusion: below-replacement fertility does not necessarily result in any permanent pattern of population decline. Rather, it can lead to a zero population growth situation, providing that immigration is allowed to continue at some constant level. This is an important demographic effect for policymakers to consider in their deliberations. ☐

Selected Projections for the U.S. Population if TFR = 1.8 and Immigration = 1 Million

Period	Population-(000s)[a]	Crude birth rate[b]	Crude death rate[b]	Immigration rate[b]	Rate of pop. increase[b]
Phase I					
1980-85	229,056	15.4	7.5	4.4	12.3
2015-2020	301,427	11.3	10.1	3.3	4.6
Phase II					
2020-25	307,327	11.0	11.0	3.3	3.2
2030-35	314,203	10.7	13.8	3.2	0.2
Phase III					
2035-2040	314,229	10.7	14.0	3.2	–0.1
2200-2205	304,991	10.7	14.1	3.3	–0.1
Phase IV					
2500-2505	299,986	10.7	14.0	3.3	–0.0
Eventual Stabilization	298,541	10.7	14.0	3.3	–0.0

[a] Population at midpoint of the period.

[b] per 1,000 population per year.

References

[1] The intrinsic rate of natural increase (or growth) is a hypothetical measure that indicates what the rate would be if age-specific fertility and mortality never changed. Should such conditions exist in the U.S., it would take about 70 years to reach the point where the intrinsic rate would in fact reflect the actual situation. For example, if the current TFR (a sum of age-specific fertility rates) and life expectancy (based on age-specific mortality rates) do not change in the future, the number of deaths will eventually exceed the number of births, and the annual rate of natural increase will be -.54 percent by around 2050.

[2] A stable population can be gaining population, losing population, or it can be stationary. Stability refers to the fact that its age composition and its vital rates no longer vary. Thus a stable population is not necessarily stationary (i.e., with zero growth); a stationary population is a type of stable population.

[3] Charles F. Westoff, "Marriage and Fertility in the Developed Countries," *Scientific American*, Vol. 239, No. 6, December 1978, p. 198.

[4] Leon F. Bouvier, "U.S. Population in 2000–Zero Growth or Not?" *Population Bulletin*, Vol 30, No. 5, October 1975, p. 30.

[5] Westoff, *op. cit.*, p. 197.

[6] Ansley Coale, "Alternative Paths to a Stationary Population" in the U.S. Commission on Population Growth and the American Future, *Demographic and Social Aspects of Population Growth*, Charles Westoff and Robert Parke Jr. (eds.), Government Printing Office, Washington, D.C., 1972, p. 598.

[7] Thomas J. Espenshade, L.F. Bouvier and W.B. Arthur, "Immigration and the Stable Population Model," *Demography*, Vol. 19, No. 1, February 1982, pp. 131-132.

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 62 countries, will appear in INTERCOM as results become available. Copies of the WFS Country Reports may be obtained from the World Fertility Survey, 428 Prinses Beatrixlaan 2770 AZ Boorburg, Netherlands.

Senegal

The Western African nation of Senegal has recently released the results of its 1978 World Fertility Survey. This survey indicates that fertility in the country is quite high at present and has been for some time.

Once part of a federation with its eastern neighbor, Mali, Senegal's topography consists primarily of low rolling hills with savanna-type vegetation. The economy is chiefly agricultural, with peanuts comprising 80 percent of total exports. The country of Gambia is wholly contained within Senegal and there have reportedly been recent moves toward closer political ties to form "Senegambia."

The government is now concerned with the continued high rate of natural increase and has begun making family planning services available. Senegal's population, now about 6 million, has more than doubled since 1950. This policy is in conjunction with a "New Lands" program to reduce pressure on agricultural areas since the country is Sahelian and subject to recurrent drought.

Use of contraceptives among Senegalese women is one of the lowest recorded in any WFS. About 1 percent of the women interviewed said that they had never used a modern method. Only 4 percent were using any form of family planning at the time of the survey including traditional methods.

The total fertility rate estimated for the survey (1978) was 7.1 children per woman, the approximate number of children each woman would have in her lifetime at current rates. Previous surveys had indicated lower fertility, but the WFS Report feels that the WFS estimate is more accurate due to improved survey techniques.

Although frequently relationships between childbearing and socioeconomic variables were found, fertility for all groups was still quite high. Thus, while illiterate women had a TFR of 7.3, literate women had a rate of 6.3; virtually similar rates pertained to rural and urban women, 7.5 and 6.5 respectively. One of the larger differentials was for ethnic groups, particularly for the Diola, who had a median age at marriage of 19.1 and a TFR of 6.3. Age at marriage in Senegal is quite low, 18.3 for urban women and 15.6 for those is rural areas.

The survey report concludes that early and universal marriage will continue to place upward pressures on birth rates, but that any increase in the very low level of contraceptive use may begin to bring down a birth rate which has remained unchanged for at least 30 years. ☐

Census Confidentiality Upheld by High Court

The U.S. Census Bureau won a major legal victory Feb. 24 when the Supreme Court unanimously ruled that the Bureau need not disclose its master address lists to states and localities suing it for alleged undercounting during the 1980 Census.

Chief Justice Warren E. Burger wrote in the Court's decision that the Census Act, as drafted by Congress, "reveals a Congressional intent to protect the confidentiality of census information by prohibiting disclosure of raw census data reported by or on behalf of individuals."

The decision was crucial, because recent disputes between the Bureau and localities have focused on the availability of "raw census data"; specifically, the master address lists. In their undercount law suits, the localities (in this decision, Denver and Essex Co., N.J.) wanted to obtain the Bureau's master address lists so that they could prove that the Bureau had left out specific residences.

This information is primarily addresses, but does contain personal information. For example, it might well expose residences that exist in violation of local zoning codes (such as commerical buildings that have illegally been converted into loft apartments).

The possibility of such incriminating information being made public might inhibit respondents from answering the census, the Court concluded. The decision seems to indicate that in the Court's view, public confidence in census confidentiality outweighs the problems localities face in proving they were undercounted: "There is no indication in the Census Act that the hundreds of municipal governments in the 50 states were intended by Congress to be the 'monitors' of the Census Bureau. Only a bar on all disclosure of all raw data reported by or on behalf of individuals would serve the function of assuring public confidence," Burger wrote.

How can cities and other aggrieved parties prove they were undercounted without access to the Bureau's address lists? They will probably find it difficult to do so in a court of law – which makes it a problem for them, but not for the Census Bureau. In any event, the Bureau feels that the precensus and postcensus local reviews provide enough recourse. This was first used in 1980, though due to time pressures, only the postcensus review was actually carried out. Under this system the Bureau produces its population or residence count for a locality. Should this count seem low, the locality then finds proof to support its claim of more people or residences, and presents this evidence to the Census Bureau, which then has the last word.

There is one ultimate recourse: in most intercensal years, a locality can ask the Bureau to conduct a full census of the area. However, since the locality must bear the cost of this operation, this solution is seldom used, except by localities that feel they are booming. ☐

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late 1970s, none of the 29 developing countries had reached a birth rate of under 20 per 1,000 population – the level of all developed countries – and 10 had birth rates of 40 or more.

Nearly half (48 percent) of the women surveyed in 27 countries said they wanted no more children. The *Bulletin* authors' analysis of data from 18 countries shows that preventing all unwanted births would have reduced their average 1976 population growth rate from 2.2 percent (a population doubling time of 32 years) to 1.3 percent (a doubling time of 53 years).

Average preferred family size in the 29 developing countries still ranges from 3 children in Turkey to nearly 9 in Senegal, compared to just over 2 in developed countries. However, the youngest women aged 15-19 preferred nearly 2 children fewer than the oldest women aged 45-49 (3.8 versus 5.7, on average) which hints of fertility declines to come, the authors observe.

World Fertility Survey Findings from 29 Developing Countries

Region and Country	Survey year	Crude birth rate[a]	Total fertility rate[a]	Mean no. children per ever-married woman aged 45-49	Mean preferred family size	% of married, fertile women using contraception
Africa						
Kenya	1977-78	48	8.0	7.9	7.2	8
Lesotho	1977	44	5.9	5.3	6.0	7
Senegal	1978	51	7.1	7.1	8.9	4
Sudan (North)	1978-79	39	5.7	6.0	6.4	5
Regional mean			6.7	6.6	7.1	6
Asia and Pacific						
Bangladesh	1976	43	5.9	6.8	4.1	10
Fiji	1974	31	4.1	6.4	4.2	46
Indonesia	1976	32	4.3	5.1	4.3	33
Korea, Rep. of	1974	29	4.0	5.8	3.2	35
Malaysia	1974	32	4.5	6.1	4.4	36
Nepal	1976	47	6.2	5.8	4.0	3
Pakistan	1975	40	5.9	6.8	4.2	7
Philippines	1978	34	5.1	6.6	4.4	39
Sri Lanka	1975	28	3.5	5.8	3.4	35
Thailand	1975	31	4.3	6.4	3.7	40
Regional mean			4.8	6.2	4.0	28
Latin America and Caribbean						
Colombia	1976	34	4.5	6.1	4.1	46
Costa Rica	1976	27	3.5	6.1	4.7	71
Dominican Rep.	1975	40	5.4	6.5	4.7	36
Guyana	1975	31	4.6	6.5	4.6	35
Haiti	1977	37	5.5	5.8	3.6	20
Jamaica	1975-76	28	4.6	5.5	4.1	44
Mexico	1976-77	40	5.9	6.7	4.5	35
Panama	1975-76	28	4.0	5.7	4.3	58
Paraguay	1979	35	4.9	6.2	5.3	41
Peru	1977-78	36	5.3	6.2	3.8	36
Trinidad & Tobago	1977	24	3.1	5.8	3.8	56
Venezuela	1977	34	4.3	6.1	4.2	52
Regional mean			4.6	6.1	4.3	44
Middle East						
Jordan	1976	45	7.2	8.5	6.3	29
Syria	1978	45	7.5	7.6	6.1	23
Turkey	1978	32	4.3	6.3	3.0	45
Regional mean			6.3	7.5	5.1	32

Source: Robert Lightbourne Jr. and Susheela Singh, with Cynthia P. Green, "The World Fertility Survey: Charting Global Childbearing." *Population Bulletin*, Vol. 37, No. 1 (March 1982).

[a] Crude birth rate: Births per 1,000 population; Total fertility rate: total births per woman aged 15-49. These rates are averages for the three years before the survey.

Note. Regional averages give equal weight to each country.

Contraceptive Use Varies, but Mostly Low

Only 6 percent of married, fertile women were using contraception at survey time in the four sub-Saharan African countries compared to 28 percent in Asia, 32 percent in the Middle East, and 44 percent in Latin America. In the U.S. and 15 European countries participating in the WFS, contraceptive use at the time of their surveys (1975 to 1979) averaged 72 percent – a level matched in the developing countries only in Costa Rica (71 percent).

In the 29 developing countries, 46 percent of the nonpregnant, fertile women who claimed to want no more children but were not using contraception said they were unwilling or undecided whether to use contraception in the future. However, the *Bulletin* authors point out that surveys made after the WFS in 10 countries showed substantial increases in contraceptive use among married women in seven countries only two to five years after their WFS surveys.

WFS surveys found that availability of family planning services does make a difference in contraceptive use, the authors observe. Contraceptive use was higher among women who knew of a source of contraceptive supplies – especially for use of the pill and condoms (which must be replenished regularly) and among rural women.

Other major WFS findings pointed out by the *Bulletin* authors:

- Age at marriage is rising in Asia, though not in Africa and Latin America. But women who delay marriage to at least age 21 have about as many children as women marrying in their teens. Average age at marriage would have to rise to 25 and more if this factor alone is to have an effect on lowering fertility in developing countries.
- WFS data on infant mortality – the first available in many cases – show much higher rates of infant deaths than expected in many of the developing countries. Countries with relatively low infant mortality (under 60 infant deaths per 1,000 births) have relatively lower fertility (4.5 births per woman and under) but only part of this association can be explained by the popular notion that infant mortality has to drop before couples in developing countries will reduce their fertility.
- Prolonged breastfeeding is still common and acts as an important restraint on fertility in most developing countries. However, WFS surveys showed that breastfeeding is declining in cities and among younger, better educated women and women with jobs outside the home. This suggests that breastfeeding will decline and fertility could rise as developing countries "modernize" if the contraceptive revolution is delayed in these countries.

The *Bulletin* authors conclude that, besides providing sure evidence that fertility is beginning to decline in the developing world apart from sub-Saharan Africa, the World Fertility Survey has "taken some of the guesswork out of policy making and program administration" that can lead to further decline.

Additional copies of the 55-page *Bulletin*, "The World Fertility Survey: Charting Global Childbearing," by Robert Lightbourne, Jr., and Susheela Singh, with the assistance of Cynthia Green (Vol. 37, No. 1) can be ordered from PRB's Circulation Dept., P.O. Box 35012, Washington, D.C. 20013 at $3.00 each; 2-10 copies $2.30 each; 11-50 copies $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin's* 21 charts and tables (including map) are available at $10.50 per set. Orders of $20 and under must be prepaid. A $1.00 handling charge should be included for orders under $20 mailed inside the U.S. For orders mailed outside the U.S. add 25 percent to the cost of items ordered to cover postage and handling.

How the 'Largest' Social Research Project is Done

Launched in 1972 as a project of the International Statistical Institute, with headquarters in London, the World Fertility Survey is providing the most complete and reliable picture to date of human fertility in what is described as "the largest social science research project ever undertaken." Some 343,000 women have now been interviewed in surveys conducted under WFS auspices in 42 developing countries and 20 developed countries, representing just under 40 percent of the world's population. Only 5 developing countries and 13 developed countries had had national fertility surveys prior to WFS, and half of all previous fertility surveys had failed to publish results. WFS, by contrast, can boast of reports for 29 developing countries and 19 developed countries already published by spring 1982, with all but Iran's report expected to follow by mid-1983.

Surveys in the developed countries—17 in Europe, plus Japan, Israel, and the U.S.—were conducted independently, though broadly along recommended lines. Thus, the main thrust has been on participating Third World countries, which range from tiny Fiji (1981 population: 600,000), site of the leadoff survey in 1974, through Indonesia (149 million) with a 1976 survey on Java and Bali, to Nigeria (80 million) where fieldwork is just being completed. These countries themselves have been responsible for collecting and analyzing data, with WFS providing technical assistance throughout—from sample design and interviewer training through data processing and tabulating and report writing, to organizing well-publicized national meetings to announce results—plus help in finding necessary funds. Major donors to WFS have been UNFPA, USAID, and the UK's Overseas Development Administration.

WFS technical assistance is based on a battery of detailed manuals, plus frequent visits by two specialists assigned to each survey from the headquarters professional staff of 45. The resulting high-quality, comprehensive data are standardized so that reliable, large-scale international analyses of fertility are possible for the first time.

Data collection in WFS-assisted surveys starts with a household interview to collect background information and identify women eligible for the individual interview—women aged 15-49 who are or have been "married" (defined as any sexual union). Samples for the basic individual interview have been large—3,000 to 11,000, with an average of about 5,000—and carefully designed to be nationally representative. The interviews have used a "core questionnaire," covering women's marital history, contraception, breastfeeding, preferred family size, education, and employment. Most countries supplemented this with one or more of seven "modules" to explore fertility-related topics in more depth, e.g., availability of family planning services and infant mortality. Questionnaires were translated into local languages and dialects; there are now over 100 translations of the core questionnaire. Except in Ghana, Nepal, and Nigeria where some men were used, all interviewers were women—an innovation for most of the countries. Interviewers were rigorously trained and supervised, typically with two supervisors for four to six interviewers, and proved to be a hardy breed in overcoming obstacles that ranged from subsisting on rice dropped by helicopter in Nepal to tracking down elusive Berber tribes in Morocco. Response rates have been far higher than in most previous surveys—over 90 percent in all countries and close to 100 percent in most—meaning that fewer than 10 percent of women selected for interview could not be found after diligent searching, refused to be interviewed, or broke off before all questions were asked.

The value of WFS data for government policymakers and planners and for "scientific understanding of fertility behavior"—two primary objectives—has already been amply proven. For example, Kenya's 1978 finding that fertility averaged a high 8 children per woman served to galvanize a flagging family planning program. The Dominican Republic added female sterilization to government services after its 1975 survey revealed that method's popularity; a followup survey in 1980 recorded a doubling of sterilization use and a sharp drop in fertility. WFS findings of unexpectedly high infant mortality, often the first available data on the topic, are prompting new public health care efforts in several developing countries.

On the research side, publications, papers, and reports on WFS methods and results now number in the hundreds; 25 alone were presented at a week-long conference in London in July 1980 which attracted world-wide attention. WFS technical manuals and reports have become required reading for graduate students in statistics and demography and a rich store lies in wait for future generations of students and researchers in the collections now accumulating in some 175 WFS depository libraries (including PRB) around the world.

For information on publications issued by WFS (which are available free of charge), WFS Country Reports, and depository libraries, write the Publications Office, International Statistical Institute, P.O. Box 950, 2270 AZ Voorburg, Netherlands. For general information on the WFS, write the Information Office, World Fertility Survey, International Statistical Institute, 35-37 Grosvenor Gardens, London SW1W 0BS, United Kingdom.

Haig: Unrest Could Cause Tide of Latin Refugees to U.S.

In a speech to U.S governors in February, Secretary of State Alexander M. Haig, Jr., linked Caribbean instability and economic underdevelopment with a potential stepup in the flight of Central American refugees to the U.S.

Citing the Cuban boatlift and other streams of migration, he asserted that in 1980, some 1.5 million illegal migrants had entered the U.S. (The source of this figure was unavailable from the State Dept.) He invited his audience to "just think what the level might be if the radicalization of this hemisphere continues, with the only alternative a totalitarian model in one state after another. Why, it would make the Cuban influx look like child's play."

Presaging President Reagan's Caribbean Basin speech given two weeks later to the Organization of American States, Haig said that "Americans have an important responsibility to deal with the social, economic, and humanitarian aspects of the [Caribbean] crisis as well as the security aspects."□

Modern FP Methods Better Known Than Traditional Ones

The substantial majority of women in many less developed countries know about contraception – in fact, more are aware of modern contraceptive methods than traditional ones.

Contraceptive use is lower than knowledge. Nonetheless, in many less developed countries, at least three-eighths of women exposed to risk of pregnancy are attempting to control their fertility.

These are two of the major conclusions reached in the just-published *Knowledge and Use of Contraception in Twenty Developing Countries* by Maria Mamlouk, the third in a series of reports on the World Fertility Survey by PRB's Compilation and Analysis of Demographic Data Project. This report utilizes WFS data from 20 less developed countries* that constitute heterogenous sample of countries from (three regions

Mamlouk's examination of these WFS data found that:

- In 19 of the 20 countries, three-quarters or more of the ever-married women know about contraception. (The exception is Nepal.) Knowledge of modern contraceptive methods (i.e., the pill, condom, IUD, injection, diaphragm, jelly, foam, tablet, tampon, sponge, and cream) is *more* common than knowledge of traditional methods (i.e., abstinence, rhythm, withdrawal, douche, and folk methods).
- Modern methods are also more frequently used than traditional methods. The three most commonly used, in order of popularity, are the pill, IUD, and sterilization. In general, the pill is the most frequently used. However, in some countries sterilization is a widely used contraceptive method, reflecting the emphasis of particular national family planning programs. In five countries, Fiji, Nepal, Sri Lanka, the Dominican Republic, and Panama, sterilization is more widely used than the pill.
- The rhythm method is the most popular among traditional contraceptive methods; withdrawal and abstinence are relied upon in only a few countries.
- Contraceptive use is most frequent among women in the middle reproductive years (ages 25 to 34) and among women who already have greater numbers of children (though this trend tends to level off after the third child). Among the 20 countries reporting, it was found that Latin American and Caribbean women were more likely to try to limit their fertility than Asian or Kenya women with the same number of children.
- The WFS studies replicated what previous studies had found: that contraceptive use is higher among better educated women who are employed. The WFS studies also found contraceptive use more prevalent in urban than in rural areas. This is not, however, a clear-cut effect, but depends on the character and development of the urban area.

The results of these surveys, as summarized in the PRB report, show that, however individual countries may differ in their contraceptive use, overall a contraceptive revolution has indeed taken place in the less developed countries over the last 20 years. As Mamlouk concludes, "Awareness and use of modern contraceptive methods have risen from near insignificance to levels that in some countries [e.g., Costa Rica] approach those observed in the developed world. . . .The combined impact of socioeconomic development and organized family planning programs is putting more and more couples within reach of the means to achieve their desired family size. This by itself is an indication of social change on the broadest scale, since only a generation ago such control over a family's destiny was not thought possible or even feasible among people who today practice contraception routinely." ☐

Single copies of *Knowledge and Use of Contraception in Twenty Developing Countries* by Maria Mamlouk are free from PRB; for mail orders, there is a $1.00 handling charge. Bulk order handling charges are available on request. Order from PRB, Circulation Dept., PO Box 35012, Washington, DC 20013

***In Africa:* Kenya. *In Asia:* Bangladesh, Fiji, Indonesia, Jordan, Republic of Korea, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand. *In Latin America;* Colombia, Costa Rica, Dominican Republic, Guyana, Jamaica, Mexico, Panama, Peru.

New Immigration Bill Provides For Employer Sanctions

A bipartisan bill was introduced in Congress on Mar. 10 calling for tighter controls on immigration and on employment of aliens in the U.S.

The bill is the product of six years of study by Congress and various commissions. It was introduced by Sen. Alan K. Simpson (R-WYO.), chairman of the Senate Subcommittee on Immigration and Refugee Policy, and by Rep. Romano L. Mazzoli (D-Ken.), chairman of the equivalent subcommittee in the House.

The main provisions:

- All job applicants will have to show their prospective employers proof of U.S. citizenship or proper status as a legally admitted alien permitted to work.

The bill calls upon the government to come up with a secure identification system in three years; until that time, existing documents (drivers licenses, Social Security cards, etc.) would be sufficient proof.

- After a one-year moratorium following passage of the bill into law, employers who knowingly hired illegal aliens would be fined $1,000 for the first offence and $2,000 for additional offences.
- Active recruiters of illegal aliens would be subject to civil and criminal penalties.
- Jan. 1, 1980, would be the amnesty cutoff date. Aliens who arrived illegally in the U.S. before that date would be able to have their status regularized (details to be worked out). Aliens who arrived subsequently could be deported.
- The bill would keep immigration at about the same level: 425,000 annually (not including refugees). Quotas for Canada and Mexico would be doubled, from 20,000 to 40,000 annually each.

Speaking in February, Sen. Simpson expressed his view that immigration was currently "out of control," saying that "Uncontrolled immigration is one of the most serious threats to our country." He pointed out that immigration into the U.S. in 1980, including Indochinese and Cuban refugees, was some 800,000—more than all the immigration in the rest of the world combined. ☐

world food news

A newly updated and detailed analysis of the prospects for food and agricultural production and demand by the end of the century has been published by the Food and Agriculture Organization of the United Nations (FAO). *Agriculture: Toward 2000*, a 134-page study with charts and other illustrations, provides a "reconnaissance of the future."

The study is intended to help governments deal with steadily rising food and agricultural demand, and covers 90 developing and 34 developed countries. It offers for the developing nations three "scenarios" of possible developments in food and agriculture in relation to population and income growth during the remainder of the century. These scenarios are built up from the study of each country separately. The three scenarios comprise:

- A *Trend* scenario that analyzes the likely impact of previous and current trends on future agricultural development up to 2000 in the 90 developing countries covered.
- An "optimistic" or "normative high growth" *Scenario A* that envisages substantial improvements in food and agricultural production and incorporates the growth objectives of developing countries under the UN International Development Strategy for the Third Development Decade.
- A more modest *Scenario B* anticipating a limited though significant improvement in agricultural and food output over past trends.

The Trend scenario, based on a continuation of existing past trends, foresees a widening gulf between rich and poor countries. Agricultural production would be satisfactory only in the developed countries and in a few relatively advanced developing nations. Overall, however, agriculture would fail to contribute meaningfully to national development and the number of hungry would increase to 600 to 650 million from the current estimates of about 450 million.

Under Scenario A, a target growth in gross domestic product per capita in developing countries of 4.5 percent a year would require an agricultural production increase of 3.7 percent annually. Farm output more than doubles between 1980 and 2000. Food production improves appreciably everywhere, and although serious undernourishment is not eliminated, the number of malnourished people is significantly reduced to about 250 million.

Scenario B foresees a rise in agricultural production of about 3.1 percent a year. However the outcome is still not satisfactory for developing countries. The number of seriously undernourished people drops only marginally, farm employment increases, slowly widening the rural-urban income gap, and the agricultural trade balances of developing countries remain static. Overall improvement is limited.

The study notes that the outcome of both Scenarios A and B could be realized, given the will to do so and barring wars and other disruptive effects. However, this would require great emphasis on agricultural development with a four- to five-fold increase of agricultural inputs such as fertilizers. Annual gross investment by 2000 would have to rise to between $100 and $130 billion (in 1975 prices), while external assistance would need to rise from around $5 billion at present (1975 prices) to $15 to $18 billion in 2000.

To achieve the aims indicated by the study, it proposes a four-part strategy involving: modernization of food and agricultural production technologies in developing countries, with a doubling of output by 2000; improved distribution so as to assure equity and to boost incentives; updating policies on international trade and assistance to the sector in developing countries; action to preserve the environment, involving a balance between the use of modern technologies to increase production and avoidance of irreversible damage to the environment.☐

Agriculture: Toward 2000 is available for $28.50 from the FAO Sales Agent, UNIPUB, Inc., 345 Park Ave. South, New York, N.Y. 10010.

Census Analysis Workshop: Producing Applied Demographic Publications will be held July 8 and 9, 1982, in Madison, Wisconsin. The workshop is being sponsored by the Dept. of Rural Sociology's Applied Population Laboratory at the University of Wisconsin. Its focus will be on developing high quality publications and presentations using 1980 Census data. Two major sessions will address "Migration and Population Redistribution" and "Families and Households." For more information, contact: Census Analysis Workshop, Dept. of Rural Sociology, 240 Agricultural Hall, 1450 Linden Dr., Madison, Wis. 53706, or phone (608) 262-3097.

Reproductive Health Policies in the Workplace will be the subject of a symposium to be held May 10 and 11, 1982, in Pittsburgh, Pa. This meeting will concentrate on determining detrimental effects and developing policies to improve workers' reproductive health. It is sponsored by the Graduate School of Public Health of the Universtiy of Pittsburgh in Collaboration with the Family Planning Council of Western Pennsylvania, Inc. For further information, contact: Ms. Enny C. Seabrook, Symposium Director, Family Planning Council of Western Pennsylvania, Inc., 1200 Allegheny Tower, 625 Stanwix St., Pittsburgh, Pa. 15222, or phone (412) 288-2130.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: November 1981

Item	12 months ending with November			
	Number		Rate	
	1981	1980	1981	1980
Live births	3,647,000	3,580,000	15.9	15.8
Deaths	1,997,000	1,971,000	8.7	8.7
Natural increase	1,650,000	1,609,000	7.2	7.1
Marriages	2,433,000	2,400,000	10.6	10.6
Divorces	1,219,000	1,176,000	5.3	5.2
Infant deaths	43,000	45,100	11.8	12.6
Population base [in millions]	...	...	229.1	226.9

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 30, No. 11) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

POPULATION LAW AND POLICY: Source Materials and Issues, by Stephen L. Isaacs. New York: Human Sciences Press. 431 pages. $29.95. ISBN 0-89885-000-2. LC 80-24549.

It was only 10 years ago . . . On the eve of the 1973 landmark decision by the US Supreme Court affirming the right to abortion, 30 states still had statutes prohibiting abortion without exception or only to save the life of the woman. (roughly estimated, 130,000 illegal abortions were performed in 1972, resulting in at least 39 deaths.) That same year, national attention focused on the Relf sisters, two black women who, at ages 12 and 14, were sterilized through a federally funded family planning program in Alabama, allegedly without either their consent or that of their parents. Until 1972, it was illegal (with a maximum five-year prison sentence) in Massachusetts to distribute contraceptives to unmarried persons. Until 1965, it was illegal in Connecticut for *anyone* to *use* contraceptives.

Stephen Isaacs' excellent textbook documents the legal history of contraception, sterilization, and abortion in the United States. (One-third of the book is devoted to the international perspective.) It serves as a broadly based guide to not only judicial decisions, but administrative regulations and legislation concerning birth control in the United States. To be sure, the subject is complex, but Isaacs hits upon virtually all important points. (On sterilization, for example: Does the individual have the right to be sterilized? What about a minor? Can spousal consent be required? Does a public hospital have to provide sterilization services? What is the state's duty to pay for sterilizations? What does "informed consent" mean? Who can be involuntarily sterilized in the United States?)

This is not a consumer guide; the format is patterned after a law school casebook. Source materials are identified and in some cases quoted extensively. In addition, the reader is introduced to different elements of the court system and some basic legal concepts (such as police power, due process, and equal protection). Isaacs, himself a lawyer, discovered the need for such a volume when he was asked to teach a course on population law and policy and found that students would have to sift through a variety of diverse materials, such as law review articles or summaries published in populationjournals, in order to have access to adequate background reading. He is to be commended for bringing the material together in a clear, cohesive manner, and **Population Law and Policy** will no doubt be a useful resource for legislators, family planning administrators, public health specialists and others interested in population concerns as well as students and lawyers. —*Mary Barberis*

INVESTING IN PEOPLE: The Economics of Population Quality, by Theodore W. Schultz. Berkeley: University of California Press, 1981. 173 pp. $12.95. ISBN 0-520-04437-1. LC 80-6062.

This is a book to be reckoned with. Those aspiring to understand the role of population policies in the broader context of development will find traditional theory and conventional nostrums challenged. From a broad array of scholarly work and his own abundant research, Schultz, the Nobel laureate for economics in 1979, draws together in this slim volume a novel theoretical framework which directly challenges traditional thinking about development, such as the theory that population growth is seen as a major obstruction to economic growth. Schultz, however presents empirical data tested by him and his associates on the demographic and economic performance of poor countries. He makes much of social and economic distortions, introduced by well-intentioned development assistance from the rich countries, which end up as further obstacles for poor countries to surmount. While unpleasant reading for the international development community, the central conclusions of Schultz's argument must be addressed with comparable rigor. Because of its novel character and sometimes loose organization, **Investing in People** will find different interpretations. Already it has been cited as a tract against international population and economic-development assistance. That is an extreme interpretation—one with which this reviewer does not concur. The more modest truths that do emerge, however, as well as the new directions it suggests for fruitful economic and demographic research, are important. Serious students will find both optimism and instruction in Schultz's arguments.

—*Michael Brewer*

POPULATION AND TECHNOLOGICAL CHANGE: A Study of Long-Term Trends, by Ester Boserup. Chicago: University of Chicago Press, 1981. $17.50. 255 pp. ISBN 0-226-06673-8. LC 80-21116.

With the publication of this book, Ester Boserup broadens the theoretical postulates she first proposed in her highly acclaimed **The Conditions of Agricultural Growth.** In **Population and Technological Change** Boserup focuses specifically on the analysis of how technological developments—broadly defined—help determine demographic change, and on how certain types of technological changes are induced by population changes. Those familiar with Boserup's earlier work will find this new contribution just as powerful and equally filled with very creative uses of concepts and statistics. The neophyte reader will find a different way of looking at history, and will discover that demographic changes have played a part in humanity's long evolution.

—*Sergio Diaz-Briquets*

COMPARING POPULATIONS, by Shirley Foster Hartley. Belmont, CA.: Wadsworth, 1982. 216 pp. $8.95. ISBN 0-534-01089-X.

Hartley has put together an excellent product that has been long overdue in the demographic profession. For too long, instructors in basic courses have had to devise their own tools to enable students to better comprehend *basic* demographic concepts and techniques. Now, **Comparing Populations** does it for the teacher.

The author takes the student through the usual divisions of the discipline—from "absolute numbers" to "population projections and policy implications"—always taking care to explain in basic terms what the concepts as well as the formulae really mean. Using Mexico and Sweden as illustrative societies, each chapter provides planned exercises to be completed by the student. Tear-out sheets make weekly assignments readily available. An up-to-date "Cross Tabulation of Chapters with Available Population Textbooks" is a particularly useful guide for instructors.

The basic undergraduate course in Population can now be taught in a thoroughly complete manner by utilizing only two books: a basic textbook and **Comparing Populations.**

—*Leon F. Bouvier*

ANNOUNCEMENT

Because of unexpectedly high costs, the Population Reference Bureau has been forced to make a difficult choice:

TO RAISE MEMBERSHIP FEES

or

TO REDUCE OUR PUBLISHING SCHEDULE

After serious thought, we decided--in these inflationary times--to reduce the number of our annual publications.

Thus, the number of publications included in membership is incorrect as listed in the accompanying green publications order form. Readers may be assured that PRB publications and information services will maintain the excellence for which they are known.

Membership now includes:

- Six issues of Intercom, published bimonthly
- Four Population Bulletins
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Please use the accompanying publications order form to join or renew your membership, or to order individual publications.

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The 1982 Data Sheet:

World Population Now (And 38 Years from Now)

The late 20th century is witness to an unprecedented event the population transformation of the world. While world population has grown slowly during most of human history, a span of a century will likely see the planet go from some 2.0 billion people (around 1930) to some 10 billion people (around 2050).*

This projected historic change can be examined in detail on PRB's just-published *1982 World Population Data Sheet*, the 20th anniversary edition of this flagship PRB publication prepared by PRB demographer Carl Haub.

Toward the Year 2020

In the past, PRB's World Data Sheets have listed country-by-country population totals for the world, and in addition given projections of country population totals for 2000–a year that has come to represent a traditional benchmark of "the future."

By now the year 2000 is rather close to the present–the future is now. So the 1982 Data Sheet gives population projections for an additional future benchmark, the year 2020, which is 38 years in the future. And for comparison, it goes back four decades to a benchmark of the past–circa 1940–a time vivid in many people's memories that falls just prior to the momentous population expansion that began in the world's less developed countries after World War II.

World population grew very slowly during most of human history–at well under 1 percent per year. But in the late 1940s and early 1950s death rates began falling in the less developed countries, due largely to health measures and to development, while birth rates remained unchanged. The result has been a tremendous bulge in population growth that demographers expect to last about a century when birth rates are expected to complete their fall to the level of death rates and populations begin to stabilize.

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* These figures are based on UN projections and assume a decline in fertility in the less developed countries due to the effects of family planning programs and economic development.

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INTERCOM

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In addition to INTERCOM, PRB members receive six in-depth POPULATION BULLETINS annually, the widely used WORLD POPULATION DATA SHEET wall chart, and selected special publications. Educator, library, student, and institutional members also receive INTERCHANGE, a population education newsletter, and ready-to-use classroom materials four times during the year.

Annual memberships are as follows:

	U.S.	**All other countries**
Individual	$ 25	$ 32.50
All students	5	6.50
Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Immigration Consensus Near

Congressional hearings have concluded on the bipartisan immigration bill introduced in March by Sen. Alan K. Simpson (R-Wyo.) and Rep. Romano L. Mazzoli (D-Ken.). The bill is on the verge of markup by the Senate and House subcommittees on Immigration and Refugee Policy (which Simpson and Mazzoli chair, respectively). After that, the bills will go to the Senate and House Judiciary Committees. Action on the bills this year by the full Senate and House is likely.

In the past few years, nearly any proposal for dealing with immigration has stimulated complaints concerning its drawbacks; e.g., the problem with worker IDs, the problem with amnesty; the problem with border control, etc. Frequently, there was enough merit in these complaints to justify doing nothing. But according to Congress watchers, a consensus may at last be emerging on immigration policy and illegal migration.

The Simpson-Mazzoli bill seems to be riding the crest of that consensus. It covers immigration quotas and amnesty for illegals, but its centerpiece is the provision to require workers to furnish proof of U.S. citizenship to employers; and for fines to be levied against employers who knowingly hire illegal aliens.

The bill has been endorsed by the AFL-CIO, and many newspaper editorials have treated it as the ultimate resolution of the immigration problem. The Reagan administration, usually thought of as pro-business, has endorsed the idea of employer sanctions, though it is officially dubious about the feasibility of an economical but foolproof worker ID card. (This card would only have to be displayed when obtaining a job.)

Two major skeptics concerning the bill remain: the U.S. Chamber of Commerce and (in media) the *Wall Street Journal*, both of which object to employers being burdened by what they consider to be "police work" in screening prospective employees.

New Statistical Abstracts Limns the U.S. in Numbers

If you read only one U.S. government book this year, make that book the *Statistical Abstract of the United States—1981.* Mainly, because the *Statistical Abstract* contains the cream of the most recent statistical data on the U.S., either developed by the government itself or published by other sources.

With its 1,031 pages and 1,577 tables, the *Abstract* would probably take nearly a year to read, anyway. But more plausibly, it can serve as an invaluable reference on everything from number of cases of chicken pox reported (199,100 in 1979) to number of pieces of first class mail delivered (60.3 billion pieces in 1980).

To quote a number INTERCOM has followed for several years, the population of professional boxers has almost quadrupled over the last 20 years, from 2,920 in 1960 to 11,264 in 1980. But speaking of amazing statistics . . . the price of the *Statistical Abstract* has zoomed nearly 63 percent in the last three years, from $6.75 for the 1978 paperback edition to $11.00 for the present one. Even at modern prices, though, it remains an invaluable reference for population specialists and statistics addicts.

The 1981 *Statistical Abstract* is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Prices: $11.00 paper, $16.00 clothbound.

International Population Assistance Programs Under Attack

by Cynthia P. Green

Traditionally, international population assistance programs have fared as well – or even better – under Republican administrations compared with Democratic ones. Similarly, population assistance has been accorded broad bipartisan support in the Congress since the late 1960s when the Agency for International Development's population office was first established. However, in the current political climate influenced by special interest groups, there are new threats to the solid broad-based support that international population programs have had for over a decade.

Population programs have come under attack from a number of perspectives, each of which has some support within the Administration or in the Congress. First, there is the allegation made by Julian Simon and others that rapid population growth is not really a problem in the developing countries, since growing numbers of people promote economic progress and the economics of the marketplace will in time improve the quality of life and lead to smaller families. This "global supply side economics" view fits in well with the Administration's domestic economic policies and is based on some of the same assumptions and predilections. Secondly, there is concern among conservatives that population prorams constitute "social engineering," since they may interfere with basic family relationships and are suspected of not being entirely voluntary. This view, enunciated by Jacqueline Kasun and others, implies that developing countries are being forced to undertake family planning programs that they neither want nor need. Thirdly, there is the frequent allegation that AID-funded programs are actively promoting abortion with U.S. taxpayers' dollars. (Government audits have found no evidence of this.) Concerns about abortion are extended further by some "right-to-life" advocates to include most modern forms of contraception, regardless of their mechanism of action. A fourth view, articulated by groups on the extreme left, is that the population movement is an elitist genocidal plot designed to perpetuate the worldwide dominance of the Western industrial countries. Still a fifth view, argued in a recent paper prepared for the State Department by Nick Eberstadt, claims that family planning programs are unnecessary, since people will find some way of regulating their fertility if they are sufficiently motivated, even if they do not have access to modern contraceptives.

These more or less intellectual attacks on population programs have been exploited by political opponents of population assistance, within both the Administration and the Congress. While a significant corps of population supporters exists in both of these quarters, those hostile to population assistance have managed to have some impact, particularly on new, conservative members of Congress who have little knowledge or experience in foreign affairs and who in some cases tend to see issues in narrow ideological and partisan terms. With the large-scale turnover in both the House and Senate in recent years, a substantial number of new Representatives and Senators need to be educated on international population issues and their relationship to other policy issues such as international development, national security, trade, and illegal immigration.

While population may be a lightning rod for certain ideological concerns, foreign assistance in general has suffered a loss of prestige within the Congress. After languishing for two years under continuing resolutions, the foreign aid bills were resuscitated in the last days of the 1981 Congressional session and passed by a narrow margin. A floor amendment by Rep. Philip Crane (R-Ill.) cut the FY1982 House appropriations level for population assistance from $240 million to $211 million; this level was sustained in a House/Senate conference. It is noteworthy that population was the only development account to be singled out for a special cut. Various amendments pertaining to abortion were also attached to the bill, indicating specific concerns about this area among some Representatives and Senators.

The pockets of opposition to population programs evident in the Congress are also surfacing in various parts of the Administration. Last December, the Office of Management and Budget recommended elimination of all population assistance for FY1983. This decision was reversed following strong protests from the State Department, AID, other leading administration officials, Congress, and population supporters. Nevertheless, Aid's request for population assistance in FY1983 was cut to $201 million – 5 percent below the FY1982 level. AID officials contend that the cut does not indicate a reduced priority for population programs but rather that the FY1982 level of $211 million represented a necessary one-time increase in population programs in FY1982 to make up for shortfalls in FY1981 programs in Asia. However, population supporters have estimated that there is approximately a $100-150 million shortfall in U.S. international population assistance in 1982, based on a total of governmental and non-governmental projects in developing countries that could be implemented if funds were available. AID's own Congressional Presentation for FY1983 states, "The demand for voluntary family planning programs has never been greater, and the United States has a leading role to play in international family planning efforts."

The Administration's FY1983 request for foreign assistance may pose difficulties for traditional liberal foreign aid supporters in Congress, since it calls for a 35 percent increase in security assistance and less than a 6 percent increase in development assistance. Since a two-year authorization was passed last year, the House and Senate authorizing committees have shown little interest in undertaking an unnecessary and potentially fruitless effort to revise authorizing legislation which could shatter the frail coalition of Democratic and Republican foreign aid supporters.

Meanwhile, the prospects for an FY1983 foreign aid appropriation before the start of the new fiscal year look fairly dismal. As of late April, Congress had yet to agree on total budget ceilings for government programs. If budget figures are not agreed upon by May 15, no appropriation bills can be brought to the floor without a waiver of the Budget Act. Foreign aid is traditionally one of the last of the 13 appropriations bills to be brought to the floor, and most Congressmen

Continued on next page

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do not in any case wish to vote on foreign aid just prior to an election, since they view this issue as unpopular with their constituents. Thus, the pressure will be strong to include foreign aid in a large Continuing Resolution, likely to pass at the earliest just prior to Congressional adjournment in late August. Under this scenario, it is assumed that the FY1983 foreign aid appropriations could be brought up on the House and Senate floors in a "lame duck" session following the November elections. Many other factors, such as Congressional decisions regarding overall budget levels and the extent of Presidential pressure on Congress to consider a new foreign aid bill, will determine whether an FY1983 appropriation is passed.

In a Continuing Resolution for foreign aid in FY1983, population assistance could drop to the $201 million level, since the continuing resolution would probably set funding at current levels or the President's request, "whichever is lower." However, Administration officials have assured population supporters that if a Continuing Resolution for FY1983 appears imminent, they will amend their FY1983 budget request level for population assistance to $211 million so as not to lose funds, and to do the same for the deeply cut health account. Still, their stated intention is to shift the restored funds into nonpopulation activities and similarly to reduce the health funds (which have supported integrated projects with a family planning component).

The one piece of foreign aid legislation that shows some signs of earlier movement this year is the Caribbean Basin Initiative (CBI), the President's proposed supplemental FY1982 funding for Central American and Caribbean countries. More than 50 U.S. development groups are supporting an amendment to the CBI, which earmarks $50 million of the $350 million in balance of payments support for direct grassroots economic assistance through community-based private organizations, including family planning agencies. Such an amendment is intended to broaden support for the CBI by appealing to traditional foreign aid supporters concerned with development assistance. The economic aid portion of the CBI is moving along in the authorizing committees but could become bogged down in the appropriations process if the budget ceiling is not raised.

Overall, there is little likelihood that population assistance funds for FY1983 will be increased, and there is a strong possibility of a decrease below the FY1982 level. Beyond the funding issue, population supporters are concerned with the pockets of hostility toward population and family planning programs that are surfacing in the Administration and the Congress. Ironically, just as population and family planning programs have become widely accepted among Third World leaders and as funding requests from Third World governmental and private agencies are escalating, some U.S. leaders appear to be reassessing the role of the U.S. in international population programs. Unfortunately, population growth does not come to a halt during these periods of retrenchment and re-education.

Cynthia P. Green is Director of Communication, the Population Crisis Committee, in Washington, D.C.

Call for Papers: The Third Symposium on Coastal and Ocean Management (Coastal Zone 83) will be held on June 1-4, 1983, in San Diego, CA. Coastal Zone 83 will be a multidisciplinary conference for professionals, citizens, and decision-makers to convene and exchange information and views on coastal and ocean management. Prospective authors are invited to submit descriptive abstracts on subjects related to coastal and ocean management, including demographic concerns and considerations for coastal and ocean resources. Send abstracts and correspondence to: Orville T. Magoon, General Chairman, COASTAL ZONE 83 - Code A, P.O. Box 26062, San Francisco, Ca. 94126, Telex: San Francisco 470093, or phone (415) 556-6390 or 5352. Abstracts must be received by August 15, 1982.

"Determinants of Fertility in Developing Countries:" Research on this topic is being sponsored by the Population Council, with funding from the U.S. Agency for International Development, as part of the Council's International Research Awards. Objectives of the 1982-1983 program are to stimulate research in how and why fertility levels change or remain the same, and to encourage the use of innovative methods and perspectives in this type of research. Preliminary proposals for 1982 and 1983 should be received by Mar. 1, July 1, or Nov. 1 for review. (Proposals are reviewed three times a year.) For further information, contact Charles B. Keely, The Population Council, One Dag Hammarskjold Plaza, New York, N.Y. 10017.

Research Grants Program: The Association for Voluntary Sterilization, Inc. (AVS) has announced the establishment of a program of research concerned with the social and psychological aspects of permanent contraception. Areas of investigation will cover a broad range of questions on access to and use of permanent contraceptive services. Proposals may be submitted by individuals for themselves, or on behalf of schools, organizations, or by national, state, regional, and local units of government. For more information, contact: Secretary, Social Science Research Program, Association for Voluntary Sterilization, Inc., 122 East 42nd St., New York, N.Y. 10017.

positions/professionals

Executive Director, International Projects Assistance Services (IPAS), Chapel Hill, N.C., a private non-profit corporation which provides technical and financial assistance to family planning programs in developing countries. The Executive Director is responsible for furthering the organization's goals, administering the organization's activities and implementing policy and program plans, with overall responsibility for management, finances and fundraising. Qualifications: Advanced degree in administration or public health desirable. Several years experience in the family planning/population or health fields, with first-hand knowledge of developing country programs. Knowledge of general business and marketing techniques important. Experience in administration, financial management, budgeting and fundraising essential. Fluency in Spanish is helpful. Salary: Negotiable. Contact: Judith Senderowitz, Search Committee Chair, c/o Center for Population Options, 2031 Florida Avenue, N.W., Washington, D.C. 20009.

So You Want to Work in Population?

Actuaries Prosper Charting Population Trends

Population people sometimes complain that business and government do not appreciate the importance of population dynamics – and perhaps (by implication) do not appreciate fully the value of population specialists. There is one area, however, in which business and government cannot avoid being entwined with population issues. In that field, population specialists are in demand, are listened to with rapt deference, and enjoy an income that compares favorably with most careers.

Insurance, pension plans, labor-management relations, and other industries all depend for their financial dealings on the characteristics of specific subpopulations (e.g., all the policyholders of a particular policy, all the union members likely to receive a certain fringe benefit, etc.). In order to calculate costs, set fees, or offer munificent benefits for one of these subpopulations, it is necessary to analyze their characteristics and make projections of their vital rates. The person who has both the demographic and financial ability to do this is the actuary.

In a way, actuaries can be described as demographers with an exceptionally heavy grounding in statistics and probability as well as a knowledge of business and finance. Much of their work consists of applying life tables to relatively small subpopulations. This is not easy work. As population buffs know, different subpopulations will display different vital statistics, based on differing ages, sexes, states of health, and socioeconomic status.

One cannot simply take general population and vital-rate numbers and assume they can be applied to a particular subpopulation. The subpopulation itself must be analyzed in detail before fee and benefit schedules can be determined. And setting those costs and benefits is the most crucial decision an insurance company or pension plan can make – it is often a commitment to pay out many millions of dollars for years or decades to come.

Because the stakes are so high, it is often essential for a company to hire actuarial consultants or a staff of actuaries who keep close tabs on the subpopulation in question (which is different from every other subpopulation and so requires custom statistical treatment).

It's the actuary who makes sure (hopefully) that your pension will be there when you need it. Because of the math skills involved and the responsibility, actuaries are generally well paid. Top actuaries can earn over $50,000 a year.

Not surprisingly, insurance companies are the largest employers, employing some two-thirds of all actuaries. State and federal governments are also major employers, as are universities, while one-quarter of all actuaries work as consultants. (Interestingly, actuarial consultants are often called as expert witnesses in personal-injury court cases to testify how much income a plaintiff is projected to lose due to injury.)

The demand for actuaries equals or exceeds the supply, and graduates with actuarial training who are now entering the job market can usually find an actuarial position.

There are some 8,100 actuaries who belong to the Society of Actuaries, the profession's national society. Their university degrees vary, from B.A. to Ph.D. The main measure of an actuary's level of competence is how many of the Society's exams he or she has passed. There are 10 of these exams, ranged in order of difficulty. Successful completion of the first five qualifies an applicant to be an associate of the Society; passing all 10 qualifies him or her to be a Fellow. These exams are rigorous, and most actuaries need some seven years of training and experience to pass all 10 exams – it's as hard as working for a doctorate, according to the Society.

For further information about the actuarial profession, including a list of colleges and universities offering actuarial courses of study, write the Society of Actuaries, 208 South LaSalle St., Chicago, Ill. 60604 *The Actuary*, an informal newsletter for the profession, is also available for 60 cents an issue (or $4.50 a year, $3.50 for actuarial students).

Herpes at Epidemic Levels

Some 5 to 20 million Americans are estimated to have genital herpes, the sexually transmitted viral disease for which there is as yet no cure. An estimated 300,000 to 500,000 new cases are contracted every year.

These estimates come from the U.S. Centers for Disease Control. While rough, they are the best estimates presently available – genital herpes was isolated as a disease only relatively recently (the late 1960s) and tests to confirm its presence are still cumbersome. Also, it is not yet a disease whose incidence has by law to be reported to state health authorities by a physician tending a patient.

Most people probably have herpes without even knowing it. But when the disease flares up, or recurs (for reasons not yet understood), it can be a painful, misery-causing disease. Sores and blisters appear on the genitals and thighs, develop scabs, and then heal over. In most cases, they soon recur, in a continuing cycle. It is far and away the leading venereal disease: gonorrhea, by comparison has a steady incidence of some 1 million reported cases in the U.S. each year; because the medical treatment for gonorrhea is effective, it can be assumed that nearly all these cases are cured.

The herpes cases, however, go right on, and since the disease continues to be contagious, its spread has been exponential. Figures on its rise are sketchy. Nonetheless, surveys by the National Disease and Therapeutic Index indicate that patient consultations with private physicians for genital herpes rose almost nine times between 1966 and 1979 (from 29,560 estimated in 1966 to 260,890 estimated in 1979). This nine-fold rise may indicate something of the rise in herpes prevalence over the last 15 years or so.

Herpes is not life-threatening per se, nor is it often incapacitating. And in most cases, it exists in a passive state. But it does have life-threatening aspects: women who contract it are more likely to develop cervical cancer, and the disease may be transmitted to a newborn baby during its passage through the birth canal. Researchers are trying to develop an anti-herpes vaccine. In the meantime, the only effective treatment apparently is a new ointment, ayclovir, that speeds healing of herpes sores and is expected to go on the market soon.

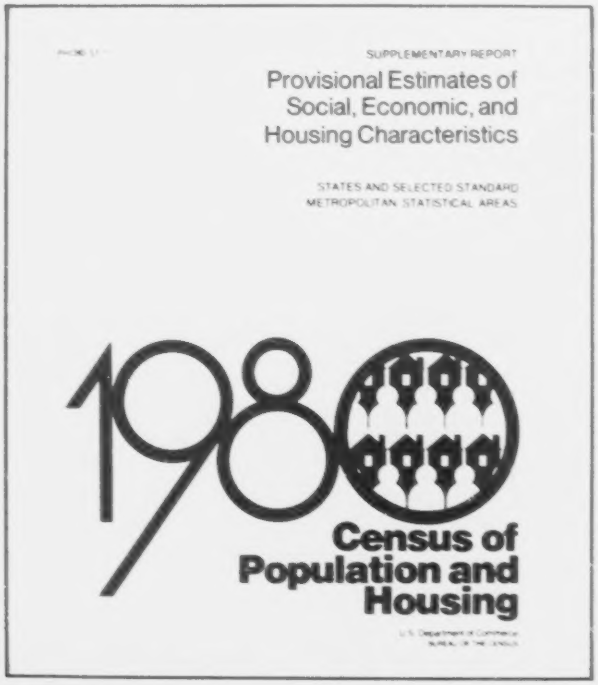
Detailed Data Now Available From the 1980 Census

The Census Bureau has just released detailed socioeconomic data from the 1980 Census for states and selected Standard Metropolitan Statistical Areas. This publication contains information based on a sample of 8 percent of sample questionnaires on such topics as marital status, fertility, housing, language usage, commuting and many more. The data are provisional since they are based on a sample of returns. In addition to census data, the report also contains a full appendix with definitions of census concepts and reproductions of census questionnaires and instructions, a useful tool for students and teachers.

Some Census nuggets:

- Where are the U.S.'s largest families? In Utah, with 3.67 per family. Hawaii is not far behind, though, with 3.62.
- The state with the largest proportion of foreign born persons? Not New York as might be expected, but California with 3.5 million residents born abroad.
- The highest per capita income? Alaska's $10,171 per person, almost one-third over the national average.
- Who has the most cars? Not Californians, but Ohioans with an average 1.11 person per private vehicle. Vermonters have the fewest cars.

Provisional Estimates of Social, Economic, and Housing Characteristics, Supplementary Report, PHC80-S1-1, is now available from the USGPO, Washington, D.C. 20402.



SUPPLEMENTARY REPORT

Provisional Estimates of
Social, Economic, and
Housing Characteristics

STATES AND SELECTED STANDARD
METROPOLITAN STATISTICAL AREAS

1980
Census of
Population and
Housing

U.S. Department of Commerce
BUREAU OF THE CENSUS

With this summary of population policies in African countries, INTERCOM begins a five-part series designed to provide a quick reference source of population policies for a majority of the world's countries. Future issues will feature the developing countries of Asia and Oceania, Latin America, the developed countries, with the fifth and final issue summarizing the percentage of the world and regional populations living in countries with specific classifications of population policies.

This INTERCOM series undertakes the somewhat ambitious task of presenting the population policies of the world's countries in a brief, tabular format for ready reference. This service to our readers has advantages and disadvantages and is initiated with cautions to the reader. In the process of classifying the many shades of gray inherent in government policies, much important detail is necessarily lost, but, on the other hand, an overview of the status of countries' assessments of the importance (or lack of it) of population growth in their future development can be of value. While this series should certainly satisfy the quick reference purpose for which it was prepared, readers interested in obtaining a more detailed understanding of a particular country's policy should consult other, more comprehensive sources such as those given in the references below. Selecting the policy category for each country was a judgment made after consulting these references.

Of the 51 countries given in the table, those few which have strong population policies designed to reduce the rate of population growth are generally concentrated north of the Sahara and in the extreme south. In the balance of the continent, several countries, Kenya, Ghana, Senegal, and perhaps Rwanda, form an exception to the rule that any government support of family planning services has as its first priority the reduction of infant and maternal mortality by means of childspacing, rather than the reduction of Africa's very high birth rates. Here, again, there are shades of gray. A country may feel that its birth rate is too high and permit or encourage family planning services to be provided either by a private organization or government clinics ostensibly to improve maternal and child health, but recognize that the very availability of such services will eventually form a basis for a long-term fertility reduction.

The classification of services as "available" or "limited" can also be difficult. While governments may not restrict the availability of services *per se*, actually obtaining them may be very difficult, particularly in rural areas. The involvement of the government in the support of family planning can be taken as one indicator of the likely present and future ease of access to services. Finally, the government's motivation for permitting or encouraging services can be classified as for the purpose of improving maternal and child health or "demographic", i.e., a specific goal of reducing the population growth rate by encouraging smaller family sizes. Ghana, for example, has set a goal of reducing the growth rate to 1.8 percent by the year 2000.

INTERCOM hopes that this series will prove to be of value and welcomes any comments or new information from readers which can be incorporated in future issues.

References

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Nortman, Dorothy L., and Hofstatter, Ellen. Population and Family Planning Programs, A compendium of data through 1978, 10th ed. New York: The Population Council, 1980.

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United Nations Population Division. Population Policy Briefs: Current Situation in Developing Countries and Selected Territories, 1979. ESA/P/WP. 67. New York, 1980.

__________. Population Policy Digest: Indicators, Perceptions and Policies. Prepared for the Economic Commission for Africa. ESA/P/WP. 74. New York, 1981.

National Population Policy Summary

	Official govt perception of pop. growth rate	Family planning availability	Reason for permitting family planning
Northern Africa			
Algeria	Too high	Avail—govt sup	Maternal/child health
Egypt	Too high	Avail—strong govt sup	Demographic
Libya	Too low	Limited	Maternal/child health
Morocco	Too high	Avail—govt sup	Demographic
Sudan	Satisfactory	Avail—govt sup	Maternal/child health
Tunisia	Too high	Avail—strong govt sup	Demographic
Western Africa			
Benin	Satisfactory	Available	Maternal/child health
Cape Verde	Satisfactory	Limited—govt sup	Maternal/child health
Gambia	Satisfactory	Avail—some govt sup	Maternal/child health
Ghana	Too high	Avail—govt sup	Demographic/maternal/child health
Guinea	Too low	Not avail	—
Guinea-Bissau	Satisfactory	Avail—some govt sup*	Maternal/child health
Ivory Coast	Too low (F-satis)	Limited	Maternal/child health
Liberia	Too high	Avail—govt sup	Maternal/child health
Mali	Satisfactory	Avail—govt sup	Maternal/child health
Mauritania	Satisfactory	Available	Maternal/child health
Niger	Satisfactory	Limited	Maternal/child health
Nigeria	Satisfactory	Avail—some govt sup	Maternal/child health
Senegal	Too high	Avail—increasing govt sup	Maternal/child health/demographic
Sierra Leone	Satisfactory (F too high)	Avail—some govt sup	Maternal/child health
Togo	Satisfactory	Avail—some govt sup	Maternal/child health
Upper Volta	Satisfactory	Limited*	Maternal/child health
Eastern Africa			
Burundi	Satisfactory	Limited	Maternal/child health
Comoros	Too high	Limited	Maternal/child health
Djibouti	Satisfactory (F too high)	—	—
Ethiopia	Satisfactory	Avail—some govt sup	Maternal/child health
Kenya	Too high	Avail—strong govt sup	Demographic
Madagascar	Satisfactory (F too high)	Avail—some govt sup	Demographic
Malawi	Satisfactory	Very limited	Maternal/child health
Mauritius	Too high	Avail—strong govt sup	Demographic
Mozambique	Satisfactory	Avail—govt sup*	Maternal/child health
Rwanda	Too high	Avail—govt sup	Demographic
Seychelles	Too high	Avail—Active govt sup	Maternal/child health
Somalia	Satisfactory	Limited	Maternal/child health
Tanzania	Satisfactory	Avail—govt sup	Maternal/child health
Uganda	Too high	Avail—govt sup	Demographic
Zambia	Satisfactory	Avail—some govt sup	Maternal/child health
Zimbabwe	Too high	Avail—govt sup	Maternal/child health
Middle Africa			
Angola	Satisfactory	Avial—some govt sup*	Maternal/child health
Cameroon	Too high	Avail—cautious govt sup	Maternal/child health
C.A. Republic	Too low	Limited	No policy
Chad	Satisfactory	Not available	No policy*
Congo	Satisfactory	Limited sup*	No policy
Equat. Guinea	Too low	Not available	—
Gabon	Too low	Limited	Maternal/child health
Sao Tome & Principe	Satisfactory	Limited	Maternal/child health
Zaire	Satisfactory	Avail—govt sup	Maternal/child health
Southern Africa			
Botswana	Too high	Avail—strong govt sup	Maternal/child health/demographic
Lesotho	Too high	Avail—govt sup	Maternal/child health/demographic
Namibia	—	—	—
South Africa	Too high	Avail—govt sup	Demographic
Swaziland	Too high	Avail—govt sup	Maternal/child health/demographic

F = fertility. Some countries differentiate in their population policy between population growth and fertility. In these cases, the policy regarding fertility appears in parentheses next to the policy regarding population growth.

* = incipient or pilot program anticipated.

— = No policy or unknown.

demographer's page

Diana DeAre is a demographer in the Population Division of the U.S. Census Bureau. Larry Long is a demographer in the Census Bureau's Center for Demographic Studies.

Did the U.S. Undergo Ruralization in the 1970s?

by Diana DeAre and Larry Long

The Census Bureau has announced that the proportion of Americans classified as urban rose from 73.6 percent in 1970 to 73.7 percent in 1980.[1] This increase of only one-tenth of a percentage point is the smallest in our history, except for the 1810-1820 decade when the percent urban actually fell by a tenth of a percentage point. However, if the Census Bureau had not made slight changes in the way it defines the concept of urban in the 1980 Census, the United States would have experienced *ruralization* in the 1970s – an increase in the number and proportion of population classified as rural. For a nation as highly urbanized and industrialized as the United States to undergo ruralization would be a momentous demographic event.

To understand whether the U.S. underwent ruralization in the 1970s, one must be familiar with how the Census Bureau defines the concepts of "urban" and "rural."* While the definitions and procedures are not complicated, they do require a bit of explanation. From 1910 to 1940 the definition was relatively simple: anyone living in an incorporated place with a population of 2,500 or more was urban, everyone else was rural. Before 1910, urban and rural were not always separately identified in census publications, and when they were, there was not much consistency in the minimum population size used to distinguish urban from rural. Before 1910, 8,000 and 4,000 were place sizes sometimes used to separate urban and rural. Exactly why a population size of 2,500 was later adopted is not clear.[2] By international standards this size does not seem especially low for use as a criterion for urban.[3]

Urbanized Areas

Whatever the minimum size chosen, a limitation of the above approach is that it fails to classify as urban the suburban population in small incorporated places and unincorporated territory in the vicinity of cities. Recognizing both this fact and the rapid suburbanizations following World War II, the Census Bureau introduced the concept of the urbanized area in 1950. In simplified terms, an urbanized area in 1950 consisted of a city of at least 50,000 population and the adjacent, continuously built-up territory (regardless of whether legally incorporated) with a residential density approximating 2,000 persons per square mile. The determination of density was made by Census Bureau analysts who examined dwelling unit counts and land area and usage near cities of 50,000 or more population. (Some nonresidential uses like railroad yards, airports, and factories were excluded in the density determinations.) In 1950 the Census Bureau also began to recognize as urban certain unincorporated places (now called census designated places) of 2,500 or more inhabitants outside urbanized areas, and it dropped rules that classified some special areas as urban in 1930 and 1940.

In 1950, therefore, "urban" basically meant anyone living in an urbanized area or in a place of 2,500 or more. The introduction of the concept of urbanized area made quite a difference. Application of the new definition of urban caused a net reclassification of 6.7 million persons from the rural to the urban category. Under the old definition, the nation was 59.6 percent urban in 1950, but under the new definition the figure was 64.0.[4]

The new urban definition adopted in 1950 remained essentially unchanged in 1960 through most publications of the 1970 census. The concept of twin central cities was introduced in 1960, and the density criterion for urban fringe areas was lowered to 1,000 persons per square mile. In 1970 the concept of extended cities was introduced. These and other small changes had little impact on the urban and rural numbers.[5]

But why limit the designation of urbanized area *only* to cities of 50,000 or more population? After all, smaller cities were suburbanizing and were likely to have in their immediate vicinity persons who probably should be considered urban but were living in unicorporated (and therefore rural) territory. In 1974 the Census Bureau dropped the minimum city size for identifying urbanized areas from 50,000 to 25,000, although the population of the central city plus densely settled contiguous places still had to total at least 50,000. This change in application of the urbanized area concept was retroactively applied to the 1970 census and raised the percent urban from 73.5 to 73.6. Since the modification was included in a Supplementary Report to the 1970 census, the slightly higher urban figure became the official count for 1970.[6]

Why use 25,000 as the minimum city size for designating urbanized areas? Cities smaller than 25,000 can be surburbanizing and have essentially ur-

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Percentage of U.S. Population Living in Urban Territory in 1970 and in 1980 (Calculated in Two Ways)

Item	1970	1980
1. Total U.S. population	203,211,926	226,545,805
2. Population in urbanized areas	120,726,234	139,170,658
3. Other urban population (i.e., in places of 2,500 or more outside urbanized areas)	28,913,486	27,880,309
4. Total urban = (2) + (3)	149,639,720	167,050,967
5. Total rural = (1) - (4)	53,572,206	59,494,838
6. Percent of total population living in urban territory × [(4) ÷ (1)] × 100	73.6	73.7
7. What the 1980 urban population would have been if the minimum place size for delineating urbanized areas had not been eliminated	–	166,365,594
8. Percent urban in 1980 according to 1970 procedures = [(7) ÷ (1)] × 100	–	73.4

ban population living in unincorporated territory just outside their boundaries. In 1980 the Census Bureau eliminated a minimum city size for the delineation of urbanized areas.[7] Any agglomeration which had an incorporated place and met the density and other requirements and had a total of 50,000 or more residents was designated an urbanized area, regardless of the size of the largest place in the agglomeration. Application of the new procedures to the 1980 census results showed 73.7 percent of the American population to be urban, up from 73.6 percent in 1970.

Ruralization?

What would have been the percent urban in 1980 if the Census Bureau had not eliminated the minimum place size for designating an urbanized area? To answer this question, we went through the calculations shown in the table above. First, we took the total urban populations reported for the 1980 Census and subtracted the population of urbanized areas that qualified only because of elimination of a minimum place size for identifying urbanized areas. Then, in each urbanized area that would not have qualified under the 1974 criteria requiring a minimum city size of 25,000, we identified places of 2,500 or more and added their population back into the urban total because they would have qualified as urban even if they were not in urbanized areas. The result, as shown in the table, is a somewhat lower urban total that represents only 73.4 percent of the nation's population. Hence, if the minimum city size for identifying urbanized areas had not been eliminated, the percent of the nation's population classified as urban would have fallen from 73.6 in 1970 to 73.4 in 1980.

number *and* as a proportion of the total population. Without elimination in 1980 of a minimum city size for delineating urbanized areas, the rural population of the United States would have increased in absolute number and as a percent of the total population. In the textbook sense, therefore, ruralization would have occurred. Without the change in urbanized area criteria the rural population increased in absolute numbers but not as a proportion of the total population.

Whether ruralization *really* occurred in the 1970s is a question that will likely be discussed and debated at length by demographers, geographers, statisticians, and others. Deciding whether the percent urban went up by 0.1 percentage point or down by 0.2 percentage point may be less significant than analyzing why the rapid increases in the percent urban after World War II came to a virtual halt in the 1970s. The percent of the nation's population classified as urban rose from 64.0 in 1950, to 69.9 in 1960, to 73.6 in 1970, and then remained nearly unchanged by 1980 regardless of which of the two ways one computes urban. A plateau thus seems to have been reached in the level of urbanization in United States in the 1970s.

The increase in the rural population in the 1970s represents the reversal of a decline that set in after the introduction of the new definition of urban in 1950. Under the new procedures, the rural population fell by 0.8 percent in the 1950s and 0.3 percent in 1960s. In the 1970s the rural population grew by 11.1 percent (12.3 percent if the minimum place size for delineating urbanized areas had not been eliminated). The exact rate of growth in the rural population in the 1970s may be less analytically significant than the reversal of two decades of decline. The urban population grew by 29.3 percent in the 1950s, 19.2 percent in the 1960s, and 11.6 percent in the 1970s (11.2 percent if the minimum place size for delineating urbanized areas had not been eliminated).

Conclusion

To repeat: the concept of urban has remained unchanged since 1950; "urban" means an urbanized area or a place of 2,500 or more residents. The way the concept has been applied has been modified somewhat over the years; in 1950 a city of at least 50,000 population was the basis for identifying urbanized areas, but a minimum city size was gradually eliminated by 1980. The changing application of the concept represents adaptations to a changing reality and the growing diffuseness of the national settlement system.

The amount of increase in the rural population – 5.9 million with the change in urbanized area criteria or 6.6 million if the criteria had not changed – comes as something of a surprise because urban and rural population estimates were not published by the Census Bureau in the 1970s. Undoubtedly, the renewal of growth of the rural population is a manifestation of the

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metropolitan-to-nonmetroplitan shift of population, but the rural data add a new depth of understanding by showing that the shift was not simply to small town but also to even less dense settings. ☐

Notes and References

1. U.S. Bureau of the Census. August 13, 1981. "1980 Urban Population Registers Smallest Gain in U.S. History, Census Tabulations Show." Press Release, CB81-138.
2. Most of the information in this paragraph is from a study by Leon E. Truesdell. See "The Development of the Urban-Rural Classification in the United States: 1874 to 1949." *Current Population Reports*. Series P-23, No. 1. Washington, D.C.: U.S. Government Printing Office, 1949.
3. Compare the ways other countries define urban and rural, as reported on pages 121-124 of the United Nations publication, *Patterns of Urban and Rural Population Growth*. Population Studies No. 68. New York: United Nations, 1980.
4. For a fuller statement of the 1950 census procedures for treating urban and rural, see U.S. Bureau of the Census, *U.S. Census of Population: 1950. Volume I. Number of Inhabitants*. Washington, D.C.: U.S. Government Printing Office, 1952. Pp. xv-xviii and xxvii-xxviii. The 1950 urban and rural counts shown in this publication were revised in later censuses.
5. For a more complete statement of the 1960 Census definition of urban and rural, see *Census of Population: 1960. Volume I. Characteristics of the Population*. Part A, *Number of Inhabitants*. Washington, D.C.: U.S. Government Printing Office, 1961. Pp. xii-xiii and xviii-xix. For 1970 see *Census of Population: 1970. Volume I. Characteristics of the Population*. Part A, *Number of Inhabitants*. Washington, D.C.: U.S. Government Printing Office, 1972. pp. x-xiii.
6. U.S. Bureau of the Census. *Supplementary Report, 1970 Census of Population*, Series PC(S1)-106, "Population of Urbanized Areas Established Since the 1970 Census, for the United States: 1970." Washington, D.C.: U.S. Government Printing Office, 1976. Small revisions to the data published in this report were made in another Supplementary Report, PC(S1)-108, "Population and Land Area of Urbanized Areas, for the United States: 1970 and 1960." Washington, D.C.: U.S. Government Printing Office, 1979.
7. Decisions to change concepts or their application are taken very seriously. Expert advice is sought, and an attempt is made to identify the implications and ramifications of the proposed change. The proposed elimination of minimum city size for delineating urbanized areas was announced in the *Federal Register* of March 25, 1980 and comments were sought. The final version was announced in the *Federal Register* of October 6, 1980 (Vol. 45, No. 195, p. 66185), welcoming further comments "relating to the clarity and understanding of the final criteria."

*"Urban" and "rural" can only be measured in a decennial Census year. This is because only a full Census can provide the detailed geographical data required.

Report on Working Women Issued by NCHS

The National Center for Health Statistics has released a report, *Working Women and Childbearing*, based upon the 1976 National Survey of Family Growth. The association between labor force experience and reduced fertility is clearly shown in the report which also cautions that cause and effect relationships are difficult to pinpoint. It may be that the work experience causes less childbearing or that previous fertility experience causes women to enter and leave the labor force.

Among the survey's many findings were:

- There is a striking difference in age at first marriage between women who had premarital labor force experience and those who did not. Only about one-fourth of the women who worked before marriage married before age 19 while two-thirds of those without work experience did.
- The larger the proportion of family income earned by the wife, the lower the rate of childbearing observed. For white wives who earned less than 25 percent of family income, fertility was about one child higher than those earning 50 percent or more.
- Within educational groups, work experience also had an effect on fertility. Women with some college had about one-half child less, on the average, when they also had ever been employed, than did women who had been to college but had not been employed.

Working Women and Childbearing: United States, Data from the National Survey of Family Growth, Series 23, No. 9 can be ordered from the USGPO, Washington, D.C. 20402. Information on this and other NCHS publications can be obtained by calling 301-436-NCHS.

PRB Offers Help to Educators

Did you know the Population Reference Bureau offers help to educators who want to address population issues in their classrooms? A number of ready-to-use teaching tools, prepared by PRB's Population Education Staff for high school, college or adult education classes, are available to teachers and students at a low cost. Three of the most popular guides are:

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The World 38 Years from Now

Continued from page 1

Comparing the Data Sheet's totals for countries and regions over this 80-year period, the full magnitude of this transformation in population size becomes clear:

- About 1940, Mexico's population was 20 million. By 2020, it may have risen to 140 million.
- About 1940, the area that comprises India today had a population of 316 million. In 2020, India is projected to have 1.2 billion people.
- Latin America's population was about 129 million around 1940. In 2020, it is projected to stand at 766 million – nearly six times larger.
- Africa's population is estimated to have been about 175 million around 1940. In 2020, it is projected to have some 1.3 billion people – nearly 7½ times larger.
- Increases in the more developed countries, meanwhile, will be much more gradual: in the 80 years between 1940 and 2020, for example, France's population is estimated to grow by only 13 percent. The area that is now East Germany is projected to actually shrink in population by 9 percent. And in that time period, the United States, which grows faster than most developed countries, may have doubled in population, from 133.1 million in 1940 to 274.1 million in 2020.
- The most striking change may be in the proportion of populations in the more developed and less developed worlds. In 1940, with world population at 2.3 billion, the ratio between the less developed and more developed countries' populations stood at about 2:1. In 2020, assuming that the same countries remain defined in the same categories, the ratio is projected to be 5:1. (In 2075, projections show it could be 6.5:1.)

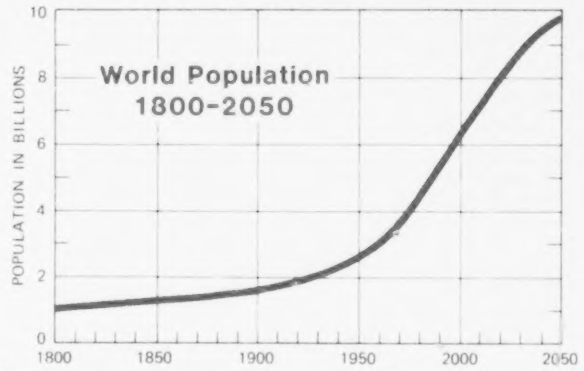
Finally, during the 80-year period from 1940 to 2020, world population as a whole is projected to increase over 3⅓ times, from 2.3 billion to nearly 7.7 billion.

Past and Present

Borders and populations have not stayed still for population enumerators, so in some ways it was easier for PRB to prepare population projections into the future than to come up with some national population totals a few decades ago. Nonetheless, the Data Sheet does endeavor to include circa-1940 country populations in a way that is comparable to those countries today. (This means, for example, excluding the 1940 populations of what are now Pakistan and Bangladesh from the population of 1940 India, which then encompassed those areas; it also means including the 1940 populations of Alaska and Hawaii in the 1940 population of the United States, even though the two were U.S. territories then.)

There have been a number of mergers and name changes. The circa-1940 population is given for Ceylon (Sri Lanka now); Malagasy Republic (Madagascar now); Ruanda-Urundi (Rwanda and Burundi now); Tanganika plus Zanzibar (Tanzania now); British Honduras (Belize now), while the United Arab Emirates did not even exist in 1940, but were part of Arabia.

The Data Sheet is a cornucopia of statistics (3,184 of them). Examining them, the reader can discover various facts and trends emerging in different countries and regions. Among the highlights:



Source *UN Population Division estimates and projections*

- One major, perennial difference between the more developed and less developed world is fertility. The Data Sheet's estimates show that the less developed world's birth rate is 33 births per 1,000, death rate 12, and the rate of natural increase is 2.1 percent, or enough, if continued unchanged into the future, for the less developed countries to double in population in just 33 years.

The more developed world's fertility is considerably lower. At 15, the birth rate is more than twice as low, and with a death rate of 10, the rate of natural increase is 0.5 percent, only a quarter of that of the less developed countries. The projected doubling time of the more developed countries at present rates is 116 years.

- Rates for the less developed world are given two ways on the Data Sheet – with China and without China. China makes up about one-third of the entire less developed world's population. Thus, it has an enormous impact on Third World statistics. It's not much of an overstatement to say that when population statistics from China sneeze, world statistics catch a cold.

In general, including China's statistics make Third World birth and growth rates, per capita GNP, and infant mortality rates seem lower, and life expectancy higher, than they would be without China.

Africa's total fertility rate (the average number of children a woman would have during her lifetime at current rates) is now estimated to stand at 6.5. New data have become available and are included in the Data Sheet, data that show that Africa's fertility, already considered to be the world's highest, may be even higher than population specialists had thought.

New infant mortality rates are now included that refer to 1980 and are considerably more recent than those previously available. The new estimates are the result of a new study of the UN Population Division. Exact infant mortality rates, based on population registrations, are also availalbe for many developed countries and a few less developed – these appear on the Data Sheet carried to one decimal place.

This year, the country on the Data Sheet with the lowest infant mortality rate is Iceland, with 5.4 infant deaths per 1,000 live births per year. The U.S. records a 11.8 rate, and ranks ninth among the Data Sheet countries. In the Third World, rates are much higher, with Brazil's 77 and Nigeria's 138 being typical of the rate levels.

- The decline in European fertility, while the lowest in the world, has apparently slowed, with a rate of natural increase of 0.4 for the continent. European have had TFRs well below the "replacement level" (usually considered to be about 2.1).

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Currently, some six European countries—Austria, Denmark, East Germany, Hungary, Luxembourg, West Germany—are not growing or are actually losing population.

- The majority of the world's people remains agricultural. In a new column, the Data Sheet lists the proportion of a country's labor force that works in agriculture. Nowhere can the difference in the more developed and less developed worlds be more plainly seen. In the MDCs, only 13 percent work in agriculture—in a country like the United Kingdom, this figure is only 2 percent. But in the LDCs this figure is much higher—some 60 percent of the entire labor force works to produce food or other agricultural products, leaving only 40 percent to work in the nonagricultural part of the economy.
- Finally, the Data Sheet shows another fundamental, continuing difference between the MDCs and LDCs: per-capita gross national product. That figure is 12 times higher in MDCs than in the LDCs. This highest figure is an incredible $30,070 per person in the United Arabs Emirates; among the lowest per capita GNPs recorded on the Data Sheet are $80 per person for Bhutan and $120 for Bangladesh.

The population numbers, vital rates, and other figures on the Data Sheet were gathered and assessed by PRB demographer Carl Haub with the assistance of other PRB demographic staff, utilizing the most up-to-date statistics available from a number of definitive sources; in particular, the UN's Statistical Office and Population Division; the U.S. Census Bureau's Foreign Demographic Analysis Division and Population Division; the U.S Agency for International Development; the Food and Agriculture Organization of the UN; and the World Bank.

The 18- × 24-inch *1982 World Population Data Sheet* can be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, at $1.00 each; 2-49 copies, 75¢ each; 50 or more, 50¢ each. Orders of $20.00 or less should be prepaid and include a $1.00 total handling charge. For orders outside the U.S., add 25 percent to cover postage and handling.

20 Years of World Data Sheets

The 1982 *Data Sheet* marks the 20th anniversary of PRB's first *Data Sheet*, published in September 1962, giving populations, and rates of birth, death, and natural increase for 127 countries. The world population total then was given as 3.115 billion people; the U.S. population was then 186.7 million.

(The 1982 *Data Sheet*, by contrast, gives 15 columns of data, everything from total fertility rates, to percent urban, for 171 countries—every country over 150,000 population, and every UN member regardless of size. This year's additions: Antigua and Barbuda, and Vanuatu (formerly the New Hebrides, in the South Pacific).

How did the *Data Sheet* begin? It seems that Kaval Gulhati, then an intern in PRB's reference library, was forever getting phone inquiries on the population and growth of different countries. To answer these inquiries, Gulhati prepared an all-purpose crib sheet of population figures which was hung on the library wall. One day the idea of simply publishing Gulhati's crib sheet dawned on PRB's staffers. The rest, as the say, is.....

Gulhati is now executive director of the Washington-based Centre for Population Activities. As for the *Data Sheet*, it continues to be PRB's largest selling publication, with total sales over the years in the hundreds of thousands, and copies affixed with pushpins to office and classroom walls all over the world, as a convenient one-page summary of major population statistics.

Incidentally, a limited number of the 1962 Data sheets—and most subsequent data sheets—are available from PRB's Circulation Dept., at the regular $1.00 price, for those interested in the world's population picture as it was seen in other years.

Latin Urban Conference Held in St. Louis

With the financial support of the Tinker Foundation, the Latin American Dept. of Saint Louis University, St. Louis, Mo. sponsored a conference April 1-2 on Problems of Urban Development in Latin America. Among the topics discussed were urbanization trends in Mexico and other Latin American countries and their implications for health services delivery, the demographic dimensions of urbanization, a review of how applicable the experience of U.S. subsidized housing may be to Latin America, and the role of the informal economic sector in urban development. Keynote speakers at the conference were Robert J. Henle, S.J., former president of Georgetown University, and Alejandro Portes of Johns Hopkins University.

Some INTERCOM Corrections

The Demographer's Page in the March 1982 INTERCOM, "Fertility, Immigration, and Isopops," by Thomas L. Espenshade and Leon F. Bouvier, was a distillation of the article "Immigration and the Stable Population Model" by Espenshade, Bouvier, and W.B. Arthur that appeared in Demography, Vol. 19, No. 1, February 1982, pp. 131-132. Due to an editor's error, a note to this effect was omitted in the introduction to the Demographer's Page.

Also in the March 1982 INTERCOM, Dr. Moses T. Ebot of the International Development Studies Center staff contributed to the compilation of data for Lesotho, Senegal, and Togo in the article "African Officials Express Attitudes about Population Growth" by Leonard H. Robinson and Suzanne E. McLees.

Reviewing the basic data, by province, underlying Morrie Blumberg's short September 1981 INTERCOM article titled "Indonesia's Age Pyramid Shows a Shrinking Base," Blumberg reports that one of the figures in his paper was in error. The number of women aged 15-49 years in the 1971 Indonesian census was 28.6 million rather than the 26.3 million cited in the article. As a result, the number of children aged 0-4 years per 1,000 women aged 15-49 years in 1971 was 671 rather than 730, and the decrease in numbers of children aged 0-4 years per 1,000 women aged 15-49 years dropped during the 1971-1980 period by 15 percent, rather than 22 percent cited in the article.

The Next 20 Years in Contraception, Projected by OTA

Although the contraceptive revolution of the last two decades has had a considerable impact on world population growth, the "ideal" contraceptive does not yet exist. Such an ideal is liable to remain elusive, but if improvements are made and a variety of technologies are available to fit different needs and situtations, it will become more likely that each couple has access to at least one form of contraception that meets their current needs.

In a wide-ranging new survey, the U.S.'s Congress's Office of Technology Assessment reports the status and prospects for different contraceptive methods, and examines the connection between contraception, family planning delivery services, and fertility change particularly in the less developed countries.

While the marketing of new contraceptive products has reached a certain plateau, a number of products are in various stages of development, as the OTA details in its study, *World Population and Fertility Planning Technologies: The Next 20 Years*. The outlook for each, according to the study:

Highly likely before 1990

1. *Safer oral contraceptives* – with lower doses, lower drug levels in the bloodstream, or drugs more specifically targeted at a particular part of the ovarian cycle.
2. *Improved IUDs* – improved copper-releasing IUDs that only require replacement every five to ten years; postpartum IUDs that can be safely inserted after delivery.
3. *Improved barrier methods* for women – including one-size-fits-all diaphragms, cervical caps and more efficient spermicides.
4. *Improved steroid injections* – enabling extremely effective contraceptive injections that last one to six months.
5. *Improved ovulation-detecting methods for use with periodic abstinence* – including a simple test for reliably telling when ovulation has occurred. (A kit for testing urine is under development.) Predicting ovulation remains a more difficult goal.
6. *Steroid implants* – steroid capsules implanted under the skin that could provide a contraceptive effect for as long as five years.
7. *Steroid vaginal rings* – rings that could be inserted by the user for three weeks or more, and provide protection similar to oral contraceptives.
8. *LRF analogs* – these luteinizing-releasing-factor hormones, which inhibit ovulation by acting on the pituitary gland in the brain, could possibly be effective contraceptives without the side effects or possible health effects of present oral contraceptives, and could be administered orally, by injection, or even with a nasal spray.
9. *Prostaglandin analogs* – vaginal suppositories that induce menstruation and could be used for nonsurgical abortion.

Possible by 1990 (under development but still experimental)

1. *Monthly steroid-based contraceptive pills* – oral contraceptives that would have the convenience of being monthly.
2. *Improved monthly steroid injections* – injections with fewer side effects than a present injection such as Depo-Provera.
3. *New types of drug-releasing IUDs* – IUDs that would gradually release drugs or antibiotics to counteract the side effects experienced by some women in present IUDs.
4. *Minidose vaginal rings* – rings similar to steroid vaginal rings which employ much lower doses of progestational steroid and no estrogen, and could be kept in place continuously.
5. *Antipregnancy vaccine for women* – a vaccine that would immunize a woman's body against a specific part of the ovum it produces; hence making it inaccessible to sperm for a certain period of time. (See INTERCOM, April 1979 for description of one such system.)
6. *Improved barrier contraceptives for men* – spermicide impregnated condoms (a form of which is already marketed in Great Britain), biodegradable condoms are also under development.
7. *Sperm suppression contraceptives for men* – based on steroids, LRF analogs, or other drugs, these could take the form of pills, implant, or injection.
8. *Reversible female sterilization* – sterilization techniques (fimbrial hoods [which block the ovaries], tubal plugs, or other methods) that hold the possibility of being effective, safe, and reversible. More research needed.
9. *Simplified female sterilization techniques* – techniques aimed at making sterilization a more widely available, outpatient service, using various nonsurgical techniques for entry into the uterus via the vagina to block or destroy a portion of the fallopian tubes with chemicals or freezing temperatures.
10. *Simplified male sterilization techniques* – including such a nonsurgical method as injecting a scarring chemical into the vas deferens to close off sperm transport.
11. *LRF analogs for self-administered menstruation* – this method could employ a pill taken every month to ensure the onset of menstruation, whether or not a pregnancy has begun.

Methods which might be available in 2000 (still in early stages of research or theoretical at this time.)

1. *Antifertility vaccine for men* – vaccine that would confer immunity against sperm or sperm production with mechanism similar to that of antipregnancy vaccine for women. Many unknowns.

Continued on next page

2. *Antisperm drugs for men* – daily or weekly pill that would inhibit enzymes essential for metabolism of sperm.
3. *Antisperm maturation drugs for men* – pill or implant that would act to block stages of maturation of sperm rather than the sperm themselves.
4. *Lactation-linked oral contraceptives for women* – drug that would extend the duration of lactation in breastfeeding women and the ovulation suppression effect of that lactation. Efforts so far have been unsuccessful.
5. *Ovulation prediction methods for use with periodic abstinence* – simple test that would predict ovulation (as opposed to detecting when it has occurred). Efforts to develop such a test have so far been unsuccessful, but such a technique would be of immense benefit in making periodic abstinence a highly effective family planning method.
6. *New types of antiovulation contraceptive drugs for women* – finding other drug methods for doing what contraceptive pills presently do, which is to suppress ovulation. New methods could result in a nonsteroidal monthly pill or injection.
7. *A postcoital pill that disrupts ovum transport* – this is believed to be the mechanism of the present postcoital pill that has unpleasant side effects. A future pill might be developed without these side effects that also does not interfere with the menstrual cycle. Still very tentative.
8. *Reversible male sterilization* – a technique that ideally would use new surgical techniques and permanently implanted tubes, valves, or plugs that could be turned on again. Efforts so far have been unsuccessful.
9. *Pharmacologic or immunologic sterilization for women* – a pill or injection that would confer permanent sterilization, either by destroying the ovaries' capacity for producing ova or immunizing the body permanently against some component of the reproductive process. Still theoretical.
10. *Pharmacological or immuniologic sterilization for men* – analogous to #10 above, to halt production of sperm. Vasectomy, however, is so far hard to top as a simple sterilization method.
11. *Agent other than LRF analogs for self-administered induction of menses* – A number of agents are being investigated.

Besides contraceptives, the OTA report examines the U.S role in contraceptive research, and the U.S. component of international population assistance. It also finds that worldwide, population assistance of all kinds totaled about $1 billion in 1980, exclusive of China. This cost could increase to $10.7 billion (in 1980 dollars) by 2000, due to rise in numbers of couples of childbearing age. And the report provides a summary of the world population situation, which in the less developed countries, says the report, "is intensifying current environmental, food, energy, and resource pressures. . . The interaction [of rapid population growth] with these problems has generated a new category of national security concerns, the implications of which remain largely unexplored."

The OTA report, "World Population and Fertility Planning Technologies: The Next 20 years," (243 pages) is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: $7.50.

Building a World That Lasts

Along with other kinds of borrowing against the future, humanity is increasingly engaged in "biological deficit financing," say the authors of "Six Steps to a Sustainable Society," the newest *Worldwatch Paper* from the Washington-based Worldwatch Institute.

More and more, "current needs are being satisfied at the expense of future generations," writes Lester R. Brown, president of Worldwatch Institute and Pamela Shaw, a Worldwatch researcher on agriculture and human resources. And they conclude that "the world of the early eighties is on the edge of an environmental crisis that is undermining the global economy."

Their paper distills the principal policy recommendations of Brown's book *Building a Sustainable Society* (from which Brown's *Population Bulletin* "World Food Resources and Population" was also adapted). And the "six steps" of the title they recommend are:

1. *Stabilize world population*. Population growth should be halted at about 6 billion by 2020, say Brown and Shaw. As more Third World governments begin to realize that the price for failing to brake population growth is a falling standard of living, family planning programs will become an increasingly important national priority.

2. *Protect cropland*. "Conservation practices such as terracing, contour farming, strip-cropping, and minimum tillage will be needed on several hundred million acres. Such erosion-control initiatives will require greater government financial support – a doubling to two billion dollars per year in the United States alone. In most Third World countries the immediate need is for paraprofessionals who can teach farmers conservation practices."

3. *Reforest the earth*. Each year the land in forest shrinks by an area the size of Hungary, but increasingly, a number of countries have launched community-based reforestation programs.

4. *Recycle*. The days of the throwaway society are numbered, according to the report, because to discard materials is to throw away energy. In mature industrial societies that systematically recycle materials, recycling centers will become the principal source of materials, relegating virgin materials to a supplemetary role. Industrial societies that fail to recycle materials, however, may pay with a declining living standard, Brown and Shaw write.

5. *Conserve energy*. The evolution of a sustainable society depends heavily on designing a more energy-efficient society. Those countries that have been most successful in increasing the energy efficiency of their economies have relied on a combination of education, market forces, financial incentives, and regulation. (For example, high taxes on gasoline, exceeding $1.00 per gallon in some West European countries, have effectively discouraged the use of gas- guzzling automobiles.)

6. *Develop renewable energy*. Over the long term, renewable sources of energy are the world's best energy hope. "Hydropower, firewood, solar collectors, energy crops, and other renewable sources already provide humanity with the energy equivalent of 1.8 billion tons of coal. By the end of the century the energy derived from these sources is expected to double, surpassing the projected contribution of oil."

Continued on next page

world food news

FAO Director-General Edouard Saouma has declared that more than $200 million will have to be raised to establish a grain reserve system in the Sahel. Saouma spoke at a special meeting of potential donors in Rome organized jointly by the Food and Agriculture Organization of the United Nations and the Permanent Interstate Committee for Drought Control in the Sahelian Zone (CILSS).

A study prepared at the request of the Council of Ministers of the CILSS to the Director-General of FAO and financed by the Belgian, Netherlands, and Norwegian governments showed that "in order to ensure continuous food supplies in the event of bad harvests, total reserves of 465,000 metric tons will be necessary," Saouma said. "This requires additional storage capacity of 272,500 metric tons: 152,500 tons at regional level and 120,000 tons at national level."

Established in 1973, the CILSS is a permanent regional body grouping eight countries of the Sahel (Cape Verde, the Gambia, Upper Volta, Mali, Mauritania, Niger, Senegal, and Chad) whose function is to control the effects of drought, coordinate the permanent emergency food relief efforts in the region, and promote any action permitting the establishment of emergency food reserves in the region.

The Sahelian area, covering some 2 million square miles, was the scene of a six-year drought beginning in the late 1960s. Stressing the vital importance for the Sahel countries of a system of grain reserves and the originality of their action to ensure their food supply, Saouma said: "Let there be no mistake about the matter: this is not just one more technical project these countries have decided to implement; it is an entire policy they have resolved to apply." In fact, this is the first time that countries are trying at the regional level to set up a coordinated network of national stocks based on a regional reserve distributed in five centers.

The Sahel is one of the regions most in need of assistance. Six of the eight members of CILSS are classed in the category of least developed countries. Seventy-five percent of their 30 million inhabitants live in landlocked countries or isolated areas where chronic inadequacies and abrupt variations in food production are compounded by logistical difficulties. The region as a whole has a growing food deficit: during the last agricultural season, for example, nearly 1 million tons of grain had to be imported.

The objectives of the project go far beyond grain storage. "The reserve stocks will undoubtedly fulfill a vital function by ensuring minimum supplies in the region and serving as a first line of defense," Saouma noted. "But obviously the mere fact of having reserve stocks will not be enough to resolve the long-term problems of insufficient food production and rural underdevelopment, the roots of the existing food insecurity . . . The security stocks must therefore be seen as one of the indispensable elements in an overall policy aiming simultaneously at stimulating production, coping with sudden checks and exerting a stabilizing influence on local and regional markets. Such a policy implies, at country level, the fixing of remunerative and stable prices for producers, a rational relation between food crop and cash crop prices, and control of the trading channels. At regional level it entails harmonizing grain prices in the different countries." In short, this system would encourage the gradual establishment of a common regional grain policy.

"Producing Applied Demographic Publications" is the theme of the Census Analysis Workshop being held July 8 and 9, 1982, in Madison, Wis. Participants will learn about recent U.S. demographic trends and how to communicate them to nontechnical audiences; techniques for analyzing and interpreting data; and publication planning. There will be lectures, and minisessions, and the two-day Workshop is aimed at assisting population analysts and planners who want to interpret and present complex data for their clients and organizations. For more information, contact: Census Analysis Workshop, Applied Population Laboratory, Dept. of Rural Sociology, University of Wisconsin, 1450 Linden Dr., Room 240, Madison, Wis. 53706.

"The capital requirements for putting a society on a sustainable footing are substantial," Brown and Shaw say. A 1981 international conference on family planning recommended a tripling of expenditures for family planning. Many Third World countries need to invest heavily in soil-saving measures and in reforestation. All these needs will be dwarfed by the capital requirements of the transition from fossil fuels to renewable energy resources.

"Indeed, without a reduction in the $550 billion global military budget, the capital for a smooth transition may not be available." But the authors see the building of a sustainable society as "a challenge heightened by the growing recognition of the consequences of failure."

Copies of *Worldwatch Paper 48* "Six Steps to a Sustainable Society" by Lester R. Brown and Pamela Shaw are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and checks (made payable to PRB) should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

Vital Statistics Update

Latest Provisional Statistics for the U.S.: December 1981

	12 months ending with December			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,646,000	3,598,000	15.9	15.8
Deaths	1,987,000	1,986,000	8.7	8.7
Natural increase	1,659,000	1,612,000	7.2	7.1
Marriages	2,438,000	2,413,000	10.6	10.6
Divorces	1,219,000	1,182,000	5.3	5.2
Infant deaths	42,700	45,000	11.7	12.5
Population base (in millions)			229.3	226.7

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 30, No. 12) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

POPULATION: **Vol. 3, edited by Eleanor C. Goldstein with Irving Morrisset and Jack E. Cousins. Boca Raton, Fla.: Social Issues Resources Series, 1982. $26.00. ISBN 0-89777-065-X.**

The 1980s have not been dry years for population articles, as is evidenced by the 40 articles compiled in Volume 3 of the **Population** series from SIRS. The articles cover the major population issues and events that occurred in the early 1980s, including the 1980 Census, declining birth rates with increasing population numbers, internal U.S. migration trends, U.S. immigration policy, the Baby Boomers as adults, and the world refugee crisis. They are written by well-respected individuals in the field, representing a wide range of viewpoints.

Volume 3 of the **Population** series is packaged in a loose-leaf binder for easy access, with a study guide to increase its usefulness in the classroom. It is an ideal resource for teachers, students, libraries and interested individuals.

—Patricia Cancellier

MEXICAN EMIGRATION TO THE UNITED STATES, **1897-1931, by Lawrence A. Cardoso. Tucson, Ariz.: The University of Arizona Press, 1980. 192 pp., $19.50 hardcover; $8.95 paperback. ISBN 0-8165-9678-7 hardcover; ISBN 0-8165-0659-0 paperback. LC 79-20029.**

Cardoso describes the political, social and economic conditions in Mexico and the United States which led to the emigration of hundreds of thousands of Mexicans in the early decades of this century. The initial impetus came from changes in the land and labor system in rural Mexico during the 1890s. In an attempt to modernize and develop the country the Porfirian government confiscated "public lands"—those occupied historically by the rural peasants—and gave them to developers or colonizers. They also eliminated, through the passing of a law, the ejidos—communally owned agricultural lands—which provided more land for the developers. These events forced the rural dwellers to work for privately-owned haciendas at very low wages, or to migrate to northern Mexico or the U.S for better paying jobs. The Mexican Revolution in 1910 and the instability and fear that accompanied it further pushed rural Mexicans to migrate north. At the same time the United States was experiencing a shortage of unskilled workers for agricultural, mining and railroad work, and could offer wages, which although considered low by U.S. residents, were much higher than those offered in Mexico. These factors set in motion a flow of migrant laborers to the U.S. which continued until the Great Depression.

Cardoso's analysis of the conditions in Mexico and the U.S which encouraged Mexican emigration is coupled with a look at the individual emigrants' feelings and attitudes at the time. This is a fascinating book which provides a much-needed historical perspective to current Mexican emigration to this country.

—Patricia Cancellier

THE POLITICS OF MARRIAGE IN CONTEMPORARY **CHINA, by Elisabeth Croll. Cambridge, England: Cambridge University Press, 1981. 210 pp. $36.00. ISBN 0-521-233453. LC 80-40586.**

Information from Chinese documents, mainly of early 1960s vintage, furnished the data base for examining marriage patterns and the structure of domestic and primary groups in the People's Republic of China. Main topics include the processes and control of negotiation, the criteria governing choice of spouse, the age of marriage and its ritual and ceremonial forms. Findings indicate that the structure and functions of the patrilocal domestic group continue to allow the older generation to exercise its controls over the selection of new members, particularly in the rural areas. Current economic policies have, in fact, reinforced the traditional arrangements, and thus slowed the reforms embodied in China's 1950 Marriage Law. Because of the slow pace of change, however, much of the value of the present volume remains, even though China has adopted a new Marriage Law in 1980.

—H. Yuan Tien

SEX, CONTRACEPTION AND MOTHERHOOD IN **JAMAICA, by Eugene B. Brody. Cambridge, Mass.: Harvard University Press, 1981. 278 pp. $20.00. ISBN 0-674-80277-2. LC 81-4133.**

Brody, a professor of psychiatry, provides insight into the attitudes of Jamaican women and men about fertility and contraception. His findings, based on extensive interviews at the island's health and family planning clinics, are clearly presented in text and documented in numerous tables to reveal a "high rate of sexual activity resulting in many children." Brody attributes resistance to contraception to Jamaica's "culture of motherhood" characterized by women bearing children "for men" in visiting and common-law unions without full involvement of the father in the economic support and rearing of his children. Such unstable relationships among male/female partners often preclude use of contraception. Furthermore, many mother-daughter relationships were discovered to lack the communication about reproductive behavior that Brody found to correlate to the daughter's eventual use of contraception. The author suggests solutions to this problem lie in better education and employment security which, he believes, will lead to firmer commitments in male/female relationships.

An interesting feature of *Sex, Contraception and Motherhood in Jamaica* is a discussion of "obeah" folk medicine brought to the island by African slaves and still practiced by some Jamaicans in preference to modern methods. Obeahmen prescribe herbs and plants growing on the island to induce fertility, potency, and abortion as well as to contracept. Mentioned as yet another obstacle to acceptance of modern contraceptives is ardent opposition to "the planning" by male leaders of the Rastafarians, a sect Brody calls "the most significant contemporary political-religious movement emphasizing African identity." In his closing chapter the author leaves the reader contemplating specific proposals to break down these barriers by introducing modern contraceptives in a "natural" way compatible with folk methods and beliefs.

—Terrice Bassler

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New Bulletin Reports:

The Shape of U.S. Population Trends

by Jean van der Tak

Legal plus illegal immigration to the U.S. might climb over 1 million a year before the 1980s are through, fertility is likely to stay low, divorce rates and life expectancy will continue upward, but the exodus of city dwellers to rural areas and increase in nonmarital cohabitation will not be so spectacular as in the 1970s.

These are some of the predictions of five demographic experts voiced at a recent PRB seminar on "What's in store for U.S. population trends in the 1980s," which is summarized as a special feature in PRB's *Population Bulletin* for June. Written by PRB staff, the *Bulletin* takes a broad look at "U.S. Population: Where We Are; Where We're Going."

Many of the experts' projections for the remainder of this decade build on the "six demographic surprises of the 1970s" identified by Calvin Beale of the U.S. Department of Agriculture and also featured in the *Bulletin* (see box, page 13). These surprises include: the faintness of the baby boom fertility "echo" that was expected in the 1970s; a faster than projected rise in life expectancy; accelerated decline in household size and speedup in migration to the South and West; the turnaround in rural-to-urban migration; and the surge in illegal and refugee immigration.

Births, Deaths, Marriages, and Divorces

Census Bureau fertility expert Martin O'Connell predicts that the fertility rate, now at a near-record low of 1.9 births per woman, will fluctuate between 1.8 and 2.1 in the next few years. But with numbers of women in the childbearing ages swollen by the baby boom generation, annual births will climb to 4 million during the 1980s—close to the 1957 and 1961 baby boom peaks of 4.3 million—before subsiding. Despite the much-publicized current rash of "over-30" first pregnancies, O'Connell sees birth rates among women in their thirties continuing at half the rates for younger women and "continued delayed marriage will keep fertility rates low for teenagers and women in their early twenties." He also predicts that as many as 25 percent of women now in their

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In addition to INTERCOM, PRB members receive four in-depth POPULATION BULLETINS annually, the widely used WORLD POPULATION DATA SHEET wall chart, and selected special publications. Educator, library, student, and institutional members also receive INTERCHANGE, a population education newsletter, and ready-to-use classroom materials four times during the year.

Annual memberships are as follows:

	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator – primary/secondary	10	13.00
Educator – college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

10 Million Refugees Now

The number of refugees around the world continues to be in the range of 10 million, according to the Office of the UN High Commissioner for Refugees. Africa is still the continent with the greatest number of refugees, with some 4 to 5 million. Somalia is currently hosting about 700,000 refugees from the conflict with Ethiopia, while the Sudan reports a refugee population of 550,000. Zaire has some 350,000 to 400,000 refugees, of whom some 215,000 are from Angola.

Pakistan holds nearly 2.7 million Afghan refugees as of April 1982 – the largest single concentration of refugees residing in any country.

At that date also, there were 221,000 Indochinese refugees awaiting resettlement, including 41,000 boat people. (From 1975 until April 1, 1982, UNHCR reports, 740,190 Indochinese refugees were resettled, including 41,185 boat people. In addition, some 130,000 Indochinese were resettled in the United States in 1975 and about 260,000 Vietnamese of Chinese descent resettled in China in 1978.)

In Central America, including Mexico, there are now 200,000 to 300,000 refugees, mainly from conflicts in El Salvador, Guatemala, and Nicaragua.

In Western Europe, there are now some 47,000 Polish asylum seekers awaiting resettlement. UNHCR has asked 24 countries around the world to provide new homes for these refugees. ☐

Friedlander New PRB Scholar

The 1982-1983 Andrew W. Mellon Foundation Visiting Scholar at the Population Reference Bureau will be Dr. Dov Friedlander, Professor of Demography at the Hebrew University of Jerusalem. As the third recipient of the Award, established in 1979, he follows William O. Sweeney (now executive director of the International Institute of Communications in London) and Dr. H. Yuan Tien (Professor of Demography at the Ohio State University).

Dr. Friedlander's work at PRB will focus on interrelationships between socioeconomic characteristics of communities and their patterns of demographic change as revealed by nuptiality, marital fertility, and migration.

Educated in demography at the London School of Economics and in economics and statistics at the Hebrew University, Dr. Friedlander has broad international experience, including serving as Visiting Professor and Demographic Advisor at the Population Training and Research Center of Chulalongkorn University, Bangkok, Research Fellow at the Centre of Urban Studies, University College, London, and Guest Lecturer in Demography at the University of Ghana. He begins his work at PRB in September 1982. ☐

Rosenthal Wins Pulitzer Prize. Jack Rosenthal, Deputy Editorial Page Editor of the *New York Times,* has won the 1982 Pulitzer Prize for his editorials. Rosenthal, who is a member of PRB's Board of Trustees, was cited for the body of his work, which the Pulitzer Board called "a distinguished example of editorial page writing."

Fertility Decline After 30 Called Gradual

The French fertility study reported in the March 1982 INTERCOM, which concluded that women's ability to have a child declines sharply after age 30, has been disputed by a Population Council researcher.

John Bongaarts, writing in *Family Planning Perspectives*, argues that women's natural pregnancy rates are much higher than the figures reported in the French study, which was based on a sample of women who were receiving artificial insemination to become pregnant because their husbands were sterile; the study found 61.5 percent of its sample of women 31-35 years old became pregnant within one year, compared to 74.1 percent of the women 26-30 years old.

Although research on women's natural conception rates is scanty, Bongaarts refers to two surveys conducted during the 1970s. A large British study by Martin Vessey et al. showed that in a sample of women whose average age was 29, the cumulative conception rate over 12 ovulation cycles after the women had stopped using contraception was nearly 80 percent. U.S. data collected from the 1976 National Survey of Family Growth was analyzed to produce women's pregnancy rates by age among married couples who were not surgically sterile and were not using contraceptives. These data, Bongaarts reports, produced the following percentages of wives *not* conceiving after one year:

Women's age	% not conceiving after one year
20-24	6.7
25-29	10.8
30-34	16.1
35-39	22.9

As can be seen, the two studies show natural conception occurring after one year at a higher rate than found in the French study. The lesser success of artificial insemination compared to natural insemination may be, according to Bongaarts, due to "the reduced fertilizing capacity of frozen sperm and the lack of a reliable method for predicting ovulation." In addition, he puts forward the following reasons for the steeper rise of infertility when using artificial insemination: a possible sampling error in determining the time taken to produce conception; the possibility that the number of insemination attempts may have differed from woman to woman; the (unproven) possibility that women who were sterile may have inadvertently been included in the older age groups, despite efforts to exclude them.

Bongaarts concludes that the decline in women's ability to conceive with age is "modest" over time (especially since insemination attempts are likely to continue more often and longer than once every menstrual cycle for 12 cycles). And even looking at the French study's results, a five-year postponement in childbearing for a woman in the 25-29 age group would mean that she was incurring a risk of infertility only 4 percentage points higher than if she were to try to conceive now. For a woman 30-34 years old, that risk would be 10 percentage points higher.

"Most of life's decisions," Bongaarts remarks, "involve a balancing of risks and benefits. For the majority of women who want to postpone childbearing until they have completed their education and established themselves in a career, the risks they are running may well be quite small compared with the benefits." □

PRB is planning a new edition of *The United States Population Data Sheet* as an update of the successful original version published in January 1981. The new *Data Sheet* will be available Sept. 1 and will again contain the most recent demographic data for all 50 states, the District of Columbia, and Census Regions and Divisions. Featured will be such information as 1981 populations for each state, racial and ethnic data, percentage urban, and 23 other population-related characteristics indispensable for students, teachers, businesspeople, and anyone else who would like, or needs, a definitive population profile of the U.S. on their wall, suitable for framing.

Nestlé and WHO. Nestlé has announced its guidelines for complying with the infant formula guidelines drawn up under the auspices of the World Health Organization. The Nestlé guidelines discourage the unnecessary use of infant formula, encourage breastfeeding, and forbid Nestlé samples from being distributed as free promotions to mothers, as had been the case in the past. The International Nestlé Boycott Committee, which had been encouraging a boycott to protest the Swiss-based company's marketing, said it was reserving judgment on the guidelines until they were implemented, while UNICEF commented that the new guidelines raised questions.

Placement Service Established. A job placement service specifically for international health and related fields has recently been established by the National Council for International Health and the New TransCentury Foundation. The service focuses on a full range of employment and consultancies, including such health professions as family planners and population experts. For complete information and enrollment forms, contact the National Center for International Health, 2121 Virginia Ave. N.W., Suite 303, Washington, D.C. 20037.

New President for PI. Werner Fornos, director of the Population Action Council, a division of the Population Institute, has been elected President of the Institute, effective Jan. 1, 1983. He succeeds Rodney Shaw, founder of the Institute and president since PI began in 1969. Shaw will continue to take an active role at PI, and Fornos will continue to head PAC.

Islam Seen as Compatible with Family Planning

Some 200 persons attended a seminar in April on Islam and Family Planning, held in Dakar, Senegal, and sponsored by the Population and Development Program of the Battelle Institute. Although over 50 percent of Senegal's population is Muslim, no national conference or seminar had previously been devoted to Islam's stance on family planning.

Eminent Islamists and religious leaders from all regions of the country attended the seminar, and made important recommendations favoring increased availability and use of contraceptives. The meeting was organized jointly by the Commission Nationale de la Population (CONAPOP), the Association Sénégalaise pour le Bien-Etre Familiale (ASBEF), and the Secrétariat d'Etat á la Promotion Humaine.*

In his opening remarks, Mamoudou Touré, the Minister of Plan and Cooperation, called for carefully formulated family planning initiatives. He alluded to differences between the arbitrary, Malthusian limitation of births, and effective family planning which contributes to reductions in infant mortality and assures the health of the mother. Touré stated that "Family planning, conceived in an appropriate fashion, accords harmoniously with the morals and religion of those who serve as its ardent supporters." He also urged the seminar participants to propose guidelines for government efforts to increase public awareness of these issues.

Specialists feel that the principal difficulty in determining Islam's stand on family planning stems from the lack of religious text addressing the topic. For this reason, the matter is characterized by confusion which can only be alleviated through careful study by interpreters of the Koran. This seminar provided an opportunity for such interpretation. All of the conference chairpersons agreed that family planning could be practiced by Muslim families under the following circumstances:

1. If the woman's physical condition is threatened by closely spaced births;
2. If the woman has a contagious disease which could be passed on to her children; and
3. If the parents are unable to protect and care for additional children.

Specific methods of contraception which are approved by Islam under any of the preceding conditions include:

1. Coitus interruptus;
2. Voluntary abstinence;
3. Breastfeeding extended over two years to avoid closely spaced births; and
4. Modern methods, but only those which have been scientifically proven to pose no threat to one's health.

Generally, the approach to family planning promoted by ASBEF strives to integrate birth spacing, the protection of mother and child, the battle against sterility, and the necessity for sex education, particularly for youth. These priorities were reinforced by the participants in the seminar through the following recommendations:

1. The use of contraceptives by couples desiring to practice family planning for reasons authorized by Koranic teachings and teachings of the Prophet. The seminar participants requested that contraceptive products should be made more accessible in pharmacies;
2. The reinforcement of measures prohibiting abortion;
3. Religious education for children, to instill in them the moral qualities that constitute a sense of pride in the traditional Senegalese social structure and values;
4. Intensified efforts to inform the public of ASBEF's activities in the realms of family planning, pediatrics, pre- and postnatal care, and treatment for sterility; and finally
5. That Senegal adopt a family planning system which takes into consideration the teachings of the Muslim religion and the necessity to assure the continued importance and well-being of the Senegalese family.

It was unanimously agreed that similar meetings should be organized on a more frequent basis as they provide a valuable opportunity to make more explicit the stance of Islam on the important issue of family planning. ☐

This article was contributed by the Battelle Institute.

World Population Growth by the Numbers

Every Second, the World Increases by 2.5 People; Every Minute, . . .

1982		World	More developed countries	Less developed countries
Births	per year	131,097,506	17,818,948	113,278,558
	per month	10,924,792	1,484,912	9,439,880
	per week	2,251,106	342,672	2,178,434
	per day	359,171	48,819	310,352
	per hour	14,965	2,034	12,931
	per minute	249	34	216
	per second	4.2	0.6	3.6
Deaths	per year	51,923,209	10,957,295	40,965,914
	per month	4,326,934	913,108	3,413,826
	per week	998,523	210,717	787,806
	per day	142,255	30,020	112,235
	per hour	5,927	1,251	4,676
	per minute	99	21	78
	per second	1.6	0.3	1.3
Natural Increase	per year	79,174,297	6,861,654	72,312,643
	per month	6,597,858	571,805	6,026,054
	per week	1,522,583	131,955	1,390,628
	per day	216,916	18,799	198,117
	per hour	9,038	783	8,255
	per minute	151	13	138
	per second	2.5	0.2	2.3

Mid-1982 population	4,585,193,000
Rate of natural increase (%)	1.727
Urban population	1,709,155,000
Pop. under 15 years	1,597,859,000
Pop. 65 and over	265,629,000
Projection to 2000	6,082,000,000
Projection to 2020	7,678,000,000

Note. Totals may not equal parts due to rounding.
Source. 1982 World Population Data Sheet of the Population Reference Bureau, Inc.

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*CONAPOP is a Senegalese governmental body under the direction of the Ministère du Plan et de la Coopération, whose responsibilities have been focused on development of a national population policy which effectively integrates demographic knowledge into the planning process. ASBEF has been in existence since 1975 as a nongovernmental organization affiliated with the International Planned Parenthood Federation.

PAA Holds Conclave on the West Coast

The Population Association of America held its 51st annual meeting April 28th through May 1 at the Town and Country Hotel in San Diego, Ca. Although it was meeting far west of wherever the center of population for demographers may be, and meeting in a year of almost nonexistent travel allowances, over 700 managed to attend (compared to 1,200 at 1981's Washington meeting). These participants spent the three days at sessions and in the corridors talking shop and discussing the current hard times. A sample of what the sessions and other meetings offered:

Psychosocial Workshop. Organized by Lawrence Severy (University of Florida) and Nancy Williamson (International Fertility Research Program), the two-day, pre-PAA "Psychosocial Factors in Population Research Workshop" marked the tenth annual gathering of this informal assembly of psychologists, sociologists, and other professionals involved in research on human behavior underlying population statistics. Henry David (Transnational Family Research Institute), honored as founder of the workshop (along with Warren Miller, American Institutes for Research), humorously described the assembly's history since the first "Abortion Research Workshop" held in conjunction with the 1973 PAA meetings in New Orleans.

This year's themes ranged from the practical difficulties of doing longitudinal research and inconsistencies of couples' and parent-child answers in family planning surveys to decision-making models (vigorously criticized by Patricia Steinhoff, University of Hawaii), population research funding sources, and fertility patterns of Mexican immigrants in the U.S.

Gloria Kamenske of NIH urged participants to keep up grant research applications, which have fallen off even though federal research money has been "fairly steady." In a panel on Mexican-American fertility, Wayne Cornelius (University of California, San Diego) reported that in Southern California, at least, the fertility decline among immigrant Mexican families has been "truly amazing." Georges Sabagh (UCLA) described Mexican-American families as effective contraceptors who want only slightly more children than "Anglos." Dee Falasco (University of Southern California) reported that in a sample of 1980-1981 Los Angeles birth certificates she studied half of the parents admitted they were undocumented immigrants; her research indicated that illegal immigrants' fertility would probably decline if their status was regulated.

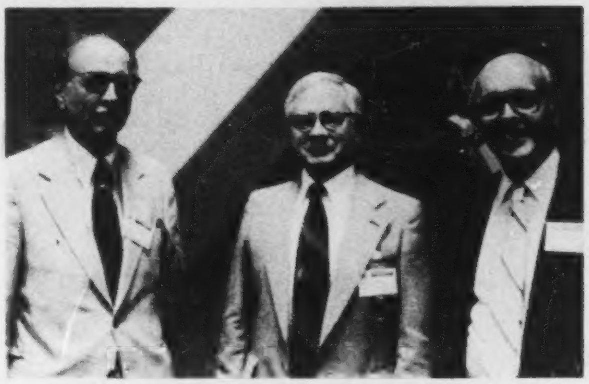
APLIC. Pawling, New York, not San Diego, was the location this year of the 15th annual meeting (May 3-5) of the Association of Population Family Planning Libraries and Information Centers/International. This year, the conference placed special emphasis upon evaluating APLIC's past and assessing the future of the organization and its membership.

A much-appreciated course in basic demography for librarians and information specialists was taught by Dr. W. Watson from Columbia University. Two new projects of APLIC were given the go-ahead—hopefully a National Union list of periodicals held by APLIC member libraries will be completed in two years and an international directory of population centers is underway.

At the annual meeting, Doreen Goyer of the Population Research Center, University of Texas, was elected APLIC president for 1982-1983 and plans were made for the 16th meeting to be held in 1983 in Pittsburgh, where it will overlap with the PAA annual meeting being held in that city.

Feminist Perspectives in Demography. In this session, Elizabeth W. Moen (University of Colorado) reported on female genital mutilation as a form of social control, with its effects on women's role in society, fertility, and maternal and child health. This topic stimulated considerable audience discussion. One participant observed that the World Fertility Surveys do not cover this important fertility-related variable. Another observed that he thought genital mutilation in certain countries was only the final step in an ongoing process designed by male society to make men masculine and women sexless.

Extended Longevity: Progress and Prospects. James F. Fries (Stanford University) presented data indicating that the maximal average life span is about 85 years, that essential body systems eventually and inexorably decline until any amount of stress cause one system or another to collapse, and that with age the body also develops an inexorably increasing predisposition to develop such chronic illnesses as arteriosclerosis, cancer, and emphysema. Despite this gloomy prognosis and the dim outlook for extending the maximal lifespan, Fries argued that *within* that maximal lifespan the time of onset of those chronic diseases can be delayed. The average age at first infirmity can be raised; vigor can be extended; and the period of senescence can be compressed into the end of life. "Rectangularizing vigor" was the goal (i.e., having the vigor curve remain high and horizontal and then drop at the end). He felt that keeping body systems at a high level of function could largely be affected by personal choices (e.g., diet, not smoking, exercise, etc.) Regarding potential longevity, it was pointed out that the known, documented record for longevity in the U.S. is 113 years, 273 days, and that a cross-checked survey taken in Ecuador found that after age 70, for every seven years elapsed, respondents tended to exaggerate their true age by three years.



Left to right: Calvin Beale, PAA President John Kantner, and W. Parker Mauldin gather before Kantner's Presidential Address.

photos by Art Haupt

Soviet Demography. Murray Feshbach (Georgetown University) related the rise in the USSR's mortality rates that occurred in the 1970s after a relatively long period of decline. The crude death rate, down to 6.9 per 1,000 population in 1964, rose to an estimated 10.3 in 1980-1981. Reasons for this reversal, Feshbach proposed, were a sharp increase in infant mortality, premature male mortality, and aging of the population. In particular, the male mortality is such that Soviet women have a life expectancy 11 years greater than do men (73, as against 62), the largest male-female life expectancy gap in the world (though in a number of developed nations, this gap approaches 10). There are a number of possible causes for this discrepancy, especially alcoholism and coronary heart disease.

International Migration to North America. Robert Warren (U.S. Census Bureau) put forward a new method of estimating the number of illegal aliens residing in the U.S.—namely, comparing the total legally admitted U.S. alien population (based on INS statistics of alien address-card registration) with Current Population Survey estimates of the foreign-born and the alien population. Employing this method, he found that the CPS estimated some 1.1 million more aliens than INS in 1970 and 1.2 million more in 1979. Further, the age distribution of the surplus is in the younger ages and tends to come from Mexico (¾ million), but none from Canada. Warren calls the over-1 million illegals believed to be counted by this method from the November 1979 CPS a minimum estimate. This is exploratory, but refinements are underway, and that such data can be culled from CPS highlights the utility of periodically collecting data of foreign-born population via the CPS, and could provide a means for monitoring the illegal population in the future.

Population Policy Formulation. In this lively, first-morning panel session, chaired by Tomas Frejka of the Population Council, Judith Blake (UCLA) declared that although demographic researchers and policymakers appeared to view each other "with mutual contempt" during the 1960s, "that nonsense is over." Now both parties must cope with waning public interest in population issues, she said. Demographers have had to adapt their ways to policymaker "clients" who want speedy, simplified answers on what population growth variables can be influenced by policy. "The more reasonable and responsible policy research becomes the more acceptable it will be," she declared. Oscar Harkavy of Ford Foundation reported that foundation trustees are also losing interest in population issues. In their view, "the battle to control population growth is over," he said. It is increasingly difficult to argue that more research on the determinants and consequences of rapid population growth is

Continued on page 10

Sudan Recognizes Pop. Policy

A national conference on Sudan's population issues was held in Khartoum April 26-28, 1982, and its proposals have been accepted by the Sudanese government as the basis of a national population policy. The government also approved creation of a National Population Council to oversee the implementation of this policy.

While the government has assisted in making family planning available to its people, these actions mark the first official recognition of the need to address population issues through a national policy.

An important session of the meeting recommended the formation of an official National Population Council mandated to study Sudanese population issues, to contribute to integrated population and development planning and to take the lead in implementing population policies.

Other sessions recommended that family planning be expanded to cover all areas of the country, emphasizing the Sudanese goals of child spacing and improved maternal and child health; that more steps be taken to assimilate the half million refugees now living in the Sudan; and that demographic data be incorporated in development planning.

The conference was held under patronage of Sudan's President, Gaffar Nimeiry, and the First Vice President, Mohamed El Taib, presided over the opening session, which was attended by over 300 representatives of the national government, as well as public and private research groups and international organizations. The first country report of the 1978 Sudan Fertility Survey was presented at the meeting, and speakers looked forward to the Sudan national census, scheduled for November 1982. ☐

Hawaiian Research Funding

The State of Hawaii Commission on Population and the Hawaiian Future is offering grants of up to $6,000 to doctoral candidates for research on population issues of the state of Hawaii. Master's degree candidates are offered up to $4,000.

The kind of research funded will normally be thesis- or dissertation-related. Examples of the kinds of topics that could be funded: the relationship between tourism and population growth; the effect of in-migration on the cost of government services; the effect of population size on Hawaiian environmental quality.

The program is being funded until June 1984, and applications may be submitted at any time. For further information, contact Dr. Robert Retherford, 2060 Burns Hall, East-West Population Institute, 1777 East-West Rd., Honolulu, Hawaii 96848. ☐

A Correction

The affiliation of William Brass was incorrectly stated in the IUSSP article appearing in the January 1982 INTERCOM. Professor Brass is Professor of Medical Demography at the University of London, and Director of the Centre for Population Studies at the London School of Hygiene and Tropical Medicine, also part of the University of London. ☐

ASIA:

Second of a series

With this summary of population policies in Asian countries, INTERCOM continues a five-part series designed to provide a quick reference source of population policies for a majority of the world's countries. Future issues will feature the developing countries of Latin America and Oceania, and the developed countries, with the fifth and final issue summarizing the percentage of the world and regional populations living in countries with specific classifications of population policies.

This INTERCOM series undertakes the somewhat ambitious task of presenting the population policies of the world's countries in a brief, tabular format for ready reference. This service to our readers has advantages and disadvantages and is initiated with cautions to the reader. In the process of classifying the many shades of gray inherent in government policies, much important detail is necessarily lost, but, on the other hand, an overview of the status of countries' assessments of the importance (or lack of it) of population growth in their future development can be of value. While this series should certainly satisfy the quick reference purpose for which it was prepared, readers interested in obtaining a more detailed understanding of a particular country's policy should consult other, more comprehensive sources such as those given in the references below. Selecting the policy category for each country was a judgment made after consulting these references.

Of the 43 countries given in the table, 14 can be identified as having a population policy specifically intended to reduce the population growth rate *per se*. In some instances, demographic goals set under population policy programs appear to be quite unrealistic. Bangladesh, for example, has set a goal of a population not larger than 100 million by 2000. However, the country already has reached the 93 million mark and should pass the 100 million mark by 1985, according to United Nations projections. By 2000, the UN projection for Bangladesh is a bit less than 150 million and continues to rise past 200 million twenty years later. This projection assumes that the country will be close to the "2 child" family by 2025.

Classifying a country's policy is not a cut-and-dried process. A country may feel that its birth rate is too high and permit or encourage family planning services to be provided either by a private organization or government clinics ostensibly to improve maternal and child health, but recognize that the very availability of such services will eventually form a basis for a long-term fertility reduction.

The classification of services as "available" or "limited" can also be difficult. While governments may not restrict the availability of services *per se*, actually obtaining them may be very difficult, particularly in rural areas. The involvement of the government in the support of family planning can be taken as one indicator of the likely present and future ease of access to services. Finally, the government's motivation for permitting or encouraging services can be classified as for the purpose of improving maternal and child health or "demographic", i.e., a specific goal of reducing the population growth rate by encouraging smaller family sizes. The Philippines, for example, has set a goal of reducing the growth rate to 2.1 percent by 1987.

INTERCOM hopes that this series will prove to be of value and welcomes any comments or new information from readers which can be incorporated in future issues. ☐

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A National Population Policy Summary

	Government perception of population growth rate	Family planning availability/ government support availability	Reason for permitting family planning
SOUTHWEST ASIA			
Bahrain	Satisfactory (F too high)	Avail/Some govt support	Maternal/child health
Cyprus	Too low	Avail/Some govt support	Maternal/child health
Iraq	Satisfactory (F too low)	Avail/No govt support	Maternal/child health
Israel	Too low	Avail/Govt support	Maternal/child health
Jordan	Satisfactory (F too high)	Avail/Govt support	Maternal/child health
Kuwait	Too low (F satisfactory)	Avail/No govt support	—
Lebanon	Satisfactory	Avail/Some govt support	Maternal/child health
Oman	Too low (F satisfactory)	Avail/No govt support	—
Qatar	Too low (F satisfactory)	Avail/No govt support	Maternal/child health
Saudi Arabia	Too low (F satisfactory)	Very limited	—
Syria	Satisfactory	Avail/Govt support	Maternal/child health
Turkey	Too high	Avail/Govt support	Demographic
U.A.E.	Too low (F satisfactory)	Avail/No govt support	—
Yemen, North	Satisfactory	Avail/Govt support	Maternal/child health
Yemen, South*	Satisfactory	Avail/Govt support	Maternal/child health
MIDDLE SOUTH ASIA			
Afghanistan*	Satisfactory?	—	—
Bangladesh	Too high	Avail/Strong govt support	Demographic
Bhutan	Satisfactory	Avail/Govt support	Maternal/child health
India	Too high	Avail/Strong govt support	Demographic
Iran	Too high?	Avail/Govt support	Demographic
Maldives	Satisfactory	Avail/Some govt support	Maternal/child health
Nepal	Too high	Avail/Govt support	Demographic
Pakistan	Too high	Avail/Strong govt support	Demographic
Sri Lanka	Too high	Avail/Strong govt support	Demographic
SOUTHEAST ASIA			
Brunei	—	—	—
Burma	Satisfactory	Limited	Maternal/child health
Dem. Kamp.	Too low?	—	—
E. Timor	—	—	—
Indonesia	Too high	Avail/Strong govt support	Demographic
Laos	Too low	Restricted	—
Malaysia	Too high	Avail/Govt support	Maternal/child health/demographic
Philippines	Too high	Avail/Govt support	Demographic
Singapore[a]	Satisfactory	Avail/Active govt support	Maternal/child health/demographic
Thailand	Too high	Avail/Strong govt support	Demographic
Vietnam	Too high	Avail/Govt support	Demographic
EAST ASIA			
China	Too high	Avail/Very strong Govt support	Demographic
Hong Kong[a]	Satisfactory	Avail/Govt support	Maternal/child health
Japan[a]	Satisfactory	Avail/Govt support	Maternal/child health
N. Korea	Satisfactory	—	—
S. Korea	Too high	Avail/Strong Govt support	Demographic
Macao	—	—	—
Mongolia	Too low (F satisfactory)	—	—
Taiwan	Too high	Avail/Strong govt support	Demographic

F = fertility. Some countries differentiate in their population policy between population growth and fertility. In these cases, the policy regarding fertility appears in parentheses next to the policy regarding population growth.

(a) = Country now has low fertility.

* = Recognizes may need to reduce fertility in future.

— = No policy or unknown.

? = Policy shown is last known and may have changed due to political development.

demographer's page

Carl Haub is a demographer at PRB.

Beyond the Demographic Transition: The Case Of West Germany

by Carl Haub

A landmark event occurred in West Germany in 1975, a country which has long since completed the process referred to as the "demographic transition."* As the birth rate fell below the death rate, the population of Germany began to decline. While West Germany is not the first country ever to experience a decrease in population, it is the first example of population decline caused solely by very low *fertility*. Previous declines in population have been due to catastrophic events such as the Black Death in Medieval Europe, famine in Ireland, or to political upheavals, most recently in Cambodia. But the decline of population in West Germany is strictly due to the interaction of its birth and death rate.

To be sure, West Germany is not alone as a country with a very low birth rate and the reality of negative population growth. Nearly all developed countries have a total fertility rate (TFR) below the "replacement level" required for natural replacement of the population.** (The TFR is the average number of children a woman will have during her lifetime given the *present* trend in fertility.) Each couple must, of course, average about two children if the population size of a given country is to be maintained in the long run. Few developed countries are doing that. This situation creates some interesting questions for the future and the very existence of these questions is in itself historic.

Replacement, Momentum, and the Two-Child Family

Before proceeding with a few possible scenarios for West Germany, a brief discussion of several aspects of population dynamics is in order. It may seem logical that when a country reaches replacement level fertility, a population would stop growing at once. This rarely, if ever, happens. Ordinarily a population will continue to grow due to the number of young persons who result from the period of higher fertility and subsequently form a rather large pool of potential parents. This group usually produces a sufficient number of annual births to outnumber deaths and maintain population growth, despite a lowered birth rate. This feature of population dynamics is often referred to as population "momentum." Just how long the population will continue to grow depends on two things: how high fertility was to begin with and how rapidly fertility declines. All other things being equal, the momentum effect will last longer when the level of prior fertility was high or when the decline in fertility was steep.

To illustrate, two extreme cases will serve. Should the TFR of Nigeria drop from its present high level of 7 children per woman to about 2 children per woman in only five years (an event which is, of course, highly improbable), Nigeria's population would continue to grow for about 70 years, rising from the present 80 million to about 120 million in 2050. On the other hand, when fertility has been very low for decades, as in the German case, the arrival at replacement level can be swiftly followed by negative growth. Should the birth rate then rise above the replacement level in Germany, a "reverse" form of momentum will likely manifest itself: the population will continue to decline for a time before beginning to rise once again.

Population and the German Future

When long-range country and world population projections are made, they are often run with the idea of projecting what population size might be when growth stops and the populations "stabilize."[1] In order for exact zero growth to be attained, it is, of course, necessary to assume that the countries' birth rates will drop (or rise) to the replacement level of about two children per woman.** This will cause the population to eventually level off at some point. On a global level, it is certainly possible for this to happen approximately, with some countries' populations declining and some increasing. But, at the country level, more dramatic changes could be taking place.

In West Germany, fertility has been very low for decades. The postwar TFR of 2.1 rose only slowly, peaking in 1964 at 2.5 in a very subdued version of the "baby boom." The TFR fell to 1.4 by 1978-1979 and rose to 1.5 in 1980.[2] Observing this trend, it is natural to wonder what effect the continuance of this low level of fertility may have on the future population of West Germany. It should be noted that these projections were made with an assumption of no immigration in order that the effects of varying fertility levels could be observed.

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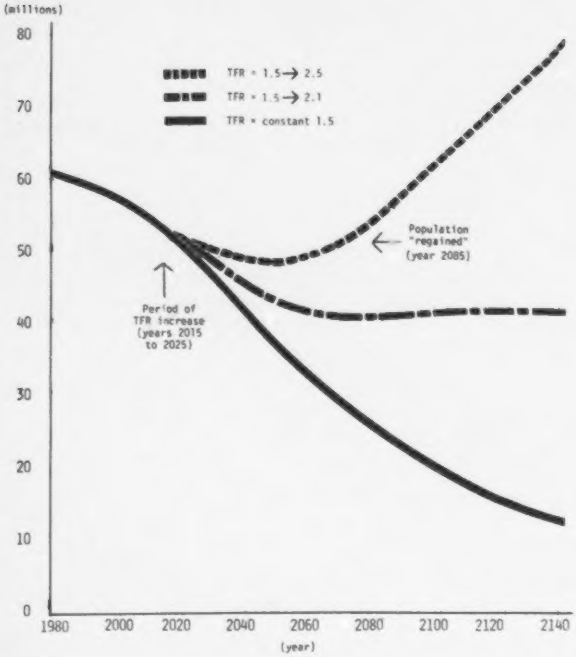
*According to the theory of demographic transition, a country's birth and death rates undergo a somewhat predictable change as the country evolves from an agricultural, preindustrial society to a modern, industrialized state. Improving health conditions initially causes the death rate to fall, while the birth rate remains at a relatively high level. During this period, population growth accelerates. Eventually, the practice of family size limitation causes the birth rate to fall as well, so that population growth slows. All developed countries have essentially completed this process.

**"Replacement level fertility" is actually slightly higher than exactly two children per woman. This is because not all women will live through their childbearing years (15-49); women who do survive their fertile years must compensate for those who do not by averaging a bit more than 2 children. In developed countries with low mortality, a replacement level TFR is about 2.1 or a little less; in developing countries with high mortality, it can be as high as 2.3-2.4.

Projected West German Population Given Varying Total Fertility Rates



In the accompanying figure, the solid line projects the population assuming a constant TFR of 1.5. Obviously, with long-term below replacement fertility, the population decreases, at first only slowly, but then at a more rapid pace. By the year 2050, Germany's present 62 million will have dropped below 40 million, and, to carry the projection into the far future, will sink to about 250,000 by 2500. Such long-range projections are, of course, simply a mathematical exercise based upon a number of "what ifs." But, while it may be unreasonable to project the eventual disappearance of the German population, one does wonder what the country's response to this rather novel possibility may be.

The Alternatives?

When considering other possibilities for future population change in Germany, the vast range of potential population sizes is striking. The figure presents two other somewhat stylized projections which assume that the birth rate rises to some higher level and then remains constant.

One can expect that should the decline of population begin to accelerate, it would probably become an important national issue. The German government is, in fact, already concerned about the current negative growth and would like to see the birth rate rise. Some "pronatalist" measures such as monthly child allowances and paid maternity leave are in effect, but as a part of family and social service programs, not "population policy" per se. Germans will most likely be confronted with appeals to avoid the chronic decrease in numbers. Pronatalist measures such as a cash bonus for each child, salary supplements, preferential pensions, or any combination of similar incentives could well be instituted or existing incentives augmented. Time would be needed to gauge the effectiveness of such policies and to see whether or not their effects would be long-term. But let us, for the sake of illustration, assume that such measures are adopted and meet with some success some time after the turn of the century.

In the chart, the dashed line represents a population projection for Germany which assumes that fertility rises during the period 2015-2025 by one full child, from a TFR of 1.5 to 2.5 (i.e., above the replacement level). This higher rate of childbearing would, of course, ensure that the population would not decline over the long run and would eventually begin to grow once again. But even this increase in the annual number of births would not be immediately sufficient to offset the number of deaths and the population would continue to decline for quite some time. Here we see a sort of "reverse momentum" at work. The population will not regain the 2015 level of 55 million until 2085, 70 years after the fertility rise began. During the period, a low point of 49 million would be reached about 2050. Therefore, it appears that some major decline in the German population is very possible unless future birth rates rise considerably above the present TFR of 1.5.

Some observers may feel that an increase of one child above the present TFR of 1.5 is unlikely for West Germany, a country whose fertility has been very low for a protracted period. The hatched line in the chart projects the population should fertility rise, not to a TFR of 1.5 but approximately the replacement level, 2.1 children per woman. Should this occur, the population will, of course, cease its decline at some point and level off in size. It would, however, continue to decline after 2015, reach a low point of about 42 million in 2080, and then rise slightly to 43 million, the ultimate "stablized size."

Summary

These projections bring up a number of intriguing points concerning the demography of countries which have essentially completed the demographic transition and now must consider a future of unknown population size. (Will Belgium's population be larger or smaller in 2020 than today?)

Many options remain. It is not absolutely inevitable that chronic decline will set in. While the highest level used in the above projections was a TFR of 2.5, an even higher level *would* halt the decrease of population. It would require an approximate doubling of the 1.5 TFR to arrest the decline in 2015 in Germany. Perhaps this will be accomplished gradually or in response to a vigorous pronatalist campaign. Bourgeois-Pichat has posed the question of whether fertility is the result of the conscious childbearing decisions of couples or whether it exhibits a wavelike pattern, rising and falling from time to time with an irresistible inertia of its

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necessary to adopt policy, since "everyone" knows by now that increasing women's education, lowering infant mortality, etc. will reduce fertility in the long run. According to Harkavy, donors now want "research to produce more effective *programs*—what does or does not work to reduce teenage pregnancy, for example," although foundations are still prepared to support demographic "institution-building" in developing countries.

Joseph Speidel of AID outlined the Agency's major role in the Third World population scene. Between 1965 and 1981, half of the 40 percent of population-related funding in the Third World provided by external donors has come from AID. Although AID considers family planning services the most effective approach to reducing fertility, 40 percent of its funds have gone to demographic research and data-gathering.

Describing plans for the 1984 World Population Conference, to be held probably in Mexico or India, Donald Heisel of the United Nations reported that it is to be "much smaller and lower key than the 1974 Bucharest conference," will last only six days, and no side meetings of, e.g., non-governmental organizations are planned. Its objectives are "limited," though discussion will cover the full range of population issues, i.e. migration and mortality, etc. as well as fertility. Since the conference is viewed as a political forum to review issues rather than a research enterprise, only one 100-page paper will be issued summarizing findings of four preparatory meetings, which will be limited to 11 experts apiece. The conference has most support among developing countries, Heisel said. Developed countries, notably the Soviet Union, U.S., Japan and West Germany, have been lukewarm and insist that most funds for it be raised outside the regular UN budget.

Marriage, or the lack of it, held center stage at three sessions. In a session on **Stability of Unions,** Graham Spanier (Pennsylvania State University) reported that the number of unmarried couples living together in the U.S. more than tripled in the 1970s to 1.6 million in 1980 and rose to 1.8 million in 1981, representing 4 percent of all couples. About half of these people have been previously married and most are under age 35. (The proportion of cohabiting unmarried couples aged 65 and over has declined dramatically, probably due to "changes in social security regulations.") Spanier attributed this trend, which "shows no signs of diminishing," to increasingly delayed marriage, continuing high divorce rates, and greater societal acceptance of "nontraditional living arrangements." In a session on **Entry Into First Marriage,** Arland Thornton (University of Michigan) reported that his and Deborah Freedman's review of data collected in several recent studies indicate that although "the vast majority" of Americans still view marriage and family life as important, "most Americans no longer regard married life as necessarily better than singleness." Studies in West Germany and the Netherlands report similar changes there. Describing her development with Charles Westoff of an "availability ratio" to measure "the demography of the U.S. marriage market," Noreen Goldman (Stanford University) reported that "the older the spouses, the greater the age difference"; grooms marrying in their twenties are one year older than their brides, on average, while those marrying in their fifties tend to choose brides seven years younger than themselves. From National Vital Statistics System data, Barbara Wilson (NCHS) also found that the older the groom, the greater the age difference between spouses, but the opposite is generally true for women. Following the 1970 marriage cohort to 1977, Wilson found that divorces within a year occurred most often when wives were older than their husbands or husbands were at least 5 years older than their wives. Men and women involved in later divorces tend to have spouses who are younger than average "for a given marriage order combination and age at marriage."

Economic Demography: Micro Relationships. Stephen K. Happel presented research by John K. Hill, Stuart A. Low, and himself (Arizona State University) on the economics of child birth timing in the U.S. They found that parents tend to "move children around" as far as birth goes in order to maximize wealth and to smooth out disruptions in family income. Couples seem to be conscious of five economic variables: rate of wife's skill decay during unemployment, her premarital work experience, opportunity costs of completing a family, dispersion of the husband's earnings profile, and the

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demographer's page

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own.[4] As countries complete the demographic transition, we may speculate about a population's propensity to exhibit a sort of self-preservation in its fertility behavior, seeking to settle on replacement fertility in the long run. Certainly, this assumption is implicit in virtually all series of population projections that we routinely cite, perhaps because it is comforting, perhaps because there really is no basis to assume much else.

In discussing these projections, several important issues in West German demography have thus far not been touched on. The fact that many foreign nationals, primarily from Southern Europe and Turkey, have been admitted over the years as "guest workers" (Gastarbeiters) has created a significant population in Germany of first and second generation non-Germans. Policies permitting access to foreign workers have ceased and efforts to repatriate them to their home countries are underway. However, the population of foreign workers and their families which numbered just under 4 million in 1978 (about 6.5 percent of the total population),[5] with its higher birth rate provides the potential for growth, while the native German population declines in numbers. In 1974, the TFR for the native German population was but 1.4 children per woman, while that of the foreign population was two-thirds higher.[5] As the native population declines, the proportion of the German population which is of foreign origin could easily double or triple in the early part of the next century. This and other issues, such as the continued "aging" of the population will undoubtedly occupy German demographers in the years to come.

As we guess what future fertility behavior may be in developed countries, there are some lessons in the past which can provide some clues. But, in so doing, we must keep in mind that both present and future societies are not those of the past and the economic climate in which fertility decisions will be made may not be the same. Will there be massive population losses in developed countries? Or will a new era of unanticipated growth eventually begin? As the significance of the demographic transition begins to fade for developed countries, perhaps our only certainty is uncertainty.

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2. From United Nations, *Demographic Yearbook, 1978, Historical Supplement,* Table 4, except for post-1978 rates, reported in Alain Monnier, *L'Europe et les pays développés d'outre-mer. Données statistiques, Population,* 36: 4-5, July-October.
3. *Population Policy Briefs: Current Situation in Developed Countries, 1980,* United Nations Population Division Working Paper, ESA/P/WP.72, New York, 1981.
4. Jean Bourgeois-Pichat, *Demographic Change in Western Europe, Population and Development Review,* Vol. 7, No. 1, March 1981.
5. A. Lebon and G. Falchi, *New Developments in Intra-European Migration Since 1974,* International Migration Review, Vol. 14, Winter 1980.

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household's permanent income. The findings indicated that economic variables provide greater explanatory power than traditional socio-demographic variables. If the U.S. continues at the two-child norm, the future composition of the U.S. will be shaped more and more strongly by timing decisions, based on micro-economic decisions such as those outlined by this study, the researchers conclude.

Applications of Demography to Business. This session, plus the first, well-attended open session of the Committee on Business Demographers, which is chaired by Dianne Schmidley of C&P Telephone Companies, marked PAA's formal recognition of the fast-emerging, mutually profitable marriage between demographers and business. Schmidley, Mary Deming of Southern California Edison Company, Garry Meyer of Donnelley Marketing, and James Smith of the *Fort Lauderdale News and Sun-Sentinel* described how their demographic training is being put to productive use by their employers. "We don't really sell out after all," Smith insisted. "Now is the opportune time to foster better relations between demographers and business," he said, because of the availability of fresh 1980 Census data and the Reagan administration's call for private business to assume more responsibility in areas and programs formerly funded from federal sources. Business might pick up the tab for more demographic research, such as internal migration surveys, Smith said. Discussant Joseph Agnich, Schmidley's boss at C&P Telephone Companies, confirmed that business managers are discovering the value of demographic research to good planning but warned that they need to know in advance how much it will cost and how good the results will be and "must be able to read what you write. We're not impressed by jargon—put your statistical degrees of freedom in the appendix," he advised. He also advised business demographers to "publish your successes" and urged that traditional demographic training be expanded "to include some business orientation."

Survey Measures of Fertility in the 1980s. This panel session focused on the value and troubled history of the National Survey of Family Growth, established within NCHS in the early 1970s as the first federally administered U.S. fertility survey and first with the "dual purpose" of contributing both to practical government program applications and research, according to Edward Perrin (Battelle Institute). Perrin described the budget and bureaucratic problems that forced abandonment of NSFG's original two-year schedule, cut sample size, and increased costs from $100 per interview of the 9,977 women in the 1973 Cycle I sample to $350 per interview in the sample of 5,600 planned for the still-pending Cycle III. Cycle III has been delayed by OMB's failure to clear the questionnaire containing what it regards as "sensitive" questions to be put to never-married teenagers who are included in the sample for the first time, said Joy Dryfoos in a paper read by session organizer Andrew Cherlin (Johns Hopkins University). NSFG director William Pratt reported from the floor that OMB clearance was expected momentarily, after more than a year's delay and after NSFG had offered a list of questions that "could be deleted without undue harm to the major intent of the survey." (At INTERCOM press time, NSFG reported that OMB has now cleared the questionnaire but deleted 27 questions. Cycle III fieldwork will begin "in August or September.")

Judith Blake (UCLA) argued that fertility surveys still need to pursue social science data—labor force participation, education, religion, etc.—in relation to fertility behavior though recent surveys have emphasized information on family planning service use and contraception trends. Linda Waite (Rand Corporation) pointed out that such data are available from other large surveys that fertility researchers might exploit as useful complements to, or pending more results from, the NSFG. These include, for example, the "Parnes" National Longitudinal Studies of young men and women, and "mature" women (aged 30-34 at first interview) which have now accumulated 15 years of followup data since their start in the late 1960s; the American Institutes for Research survey of 20,000 high school seniors interviewed in 1972 and followed to 1979; and the Office of Education survey of high school seniors and sophomores, 30,000 apiece, interviewed in 1980 and reinterviewed in 1982.

Adolescent Fertility: Its Regulation. Guarantees of confidentiality and staff "who care" are the most successful approaches to ensuring teenagers' use of family planning clinics and contraceptive continuation was the conclusion of three papers presented in this session. Similar findings were reported by Laurie Zabin (Johns Hopkins University) from a query of 1,200 adolescents on their first visits to 32 clinics in 8 cities; Constance Nathanson (also Johns Hopkins), questioning 2,900 teenagers on first visit to 78 contraceptive outlets in 21 Maryland counties, with a six-month followup; and Susan Philliber and Pearila Namerow (Columbia University), comparing teenagers using a teen-oriented, evening clinic with those relying on traditional daytime services in the same clinic. Parental involvement in teenagers' sex education appears to delay sexual activity, said William Pratt, reporting on a 1979 pilot study of 606 never-married women for Cycle III of the NSFG, but one-third of this sample reported having had sex before age 18, although this activity was usually "episodic."

PAA members enjoy a convivial moment al fresco.

Factors Affecting Length of Life. Kenneth A. Bollen (General Motors Research Laboratories) presented data on the daily patterns of U.S. suicide and motor vehicle fatalities from 1972 to 1976. He found that temporal variations were stronger for the motor vehicle deaths than for suicides, but were present in both. Motor vehicle deaths tended to peak on Saturday in the summer months, in 1972 and 1973, and on holidays. Suicides were generally highest on Monday, in spring months, in 1975 and 1976, and on non-holidays. There were more temporal differences between motor vehicle deaths and suicides than similarities, with a small negative correlation, so that these results differ from previous cross-sectional studies that have found a close positive relationship (a result that has allowed previous research to at least suggest that the motor vehicle fatalities might be suicide related).

Presidential Address: "Population, Policy, and Political Atavism." John F. Kantner (Johns Hopkins University) addressed the membership Friday night on the current challenges, political and otherwise, to the population community. The community, of course, has always been on a wheel of fortune. Indeed, only a few years ago, the prospect of a "Malthusian apocalypse" brought the profession to unprecedented prominence—"heady times those," President Kantner commented, but not times destined to last.

Now, however, the public perception is that population is last year's crisis, somewhere (quoting writers McNicoll and Nag) between ocean mining and acid rain. And concurrent with that have come new difficulties: "attacks on the intellectual foundations that have provided the major rationale for [organized population control efforts]"; "efforts to ban certain kinds of research because of ethical and moral objections to particular features of fertility regulation programs"; and "widespread damage in the name of economy to systems for generating information and knowledge about population."

Elaborating on the last problem, Kantner detailed "the significant damage" he said is being done to the U.S. government's statistical system due to the current budget-cutting drive. These cuts are widespread; of particular note are the decisions to reduce the size of the Current Population Survey and the National Health Interview Survey, as well as eliminating, delaying, or withholding from release or publication many studies and analyses. "These actions project an attitude toward the federal statistical system which can fairly be called irresponsible," Kantner said. "The cuts have not been defended, the consequences assessed nor alternative course of action proposed."

"The greatest calamity of all," he went on, "is the chaos that has occurred in professional ranks as personnel are RIFed, reassigned, and furloughed," and he thought that rather than saving money, the exercise in personnel reduction might well end up costing more.

He criticized various international agencies for downgrading their

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Jane Menken thanks Cecil Sheps after receiving the Mindel C. Sheps Award.

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data collection operations and population policy formulations, including the UN Fund for Population Activities and the U.S. Agency for International Development.

Kantner recounted the recent outbreak of criticism of the foundations of population policy, made primarily by "revisionist" researchers who feel that the relationship between population and society has been misperceived by excessively pessimistic social scientists. He found the revisionist case to be weak, specifically pointing out that (a) the revisionists usually attacked "demographic determinism of a primitive Malthusian type" without acknowledging that today few population specialists actually hold that point of view; (b) they seem to feel that by refuting small portions of major population findings or theories, they *per force* are refuting the findings and theories, as though these were the perfect, brittle axioms of classical physics or mathematics (an errant assumption); (c) they seem excessively fixed upon denying that population growth retards economic growth, pointing to examples of Third World economic success. Such examples do not, however, defeat the reasonable assumption that population growth does affect, to a greater or lesser extent, economic growth; and (d) they seem perhaps overly optimistic that problems such as job creation, provision of services and housing, protection of the environment, etc., can be handled by present, or improved social institutions, when in fact these very institutions have so far often turned out to be inadequate to cope with or control change, or were actual impediments to change.

Finally, Kantner expressed concern about threats to population research coming from groups opposed to abortion or programs in fertility regulation. He mentioned the bill introduced in the Senate that would ban the use of federal funds for any research on abortion—including demographic research.

One result of all these problems is that PAA's "ears are now cocked for trouble and we have a sensory apparatus for responding appropriately." It is forming ties for mutual protection with other organizations, and considering affiliation with the Consortium of Social Science Associations that would work to forstall drastic cuts in federal funding for research. And PAA now realizes "that we must sustain a continuous effort to maintain conditions under which the field can flourish. Such conditions include not only support for the wherewithal of our craft but enlightened public understanding of what we're about and what we have to offer."

The fifth **Mindel C. Sheps Award** in mathematical demography was given this year to Jane Menken (Princeton University), for her work on mathematical and statistical models of the reproductive cycle and application of these models to problems of theory, data analysis, and policy. Cecil Sheps personally presented Menken with the award, which is given every two years and consists of a certificate and a $1500 honorarium. Accepting the award, Menken paid tribute to Mindel Sheps as the "consummate teacher," with whom she had worked for seven years, including work on the models for which she was now receiving the Sheps Award.

There was a tie this year for the **Dorothy S. Thomas Award,** given annually for the best paper by a graduate student (or student who has completed a graduate program within the past year) on migration or on demographic-social-economic variables. Mary Kay Falconer (Florida State University) was cited for her paper "Labor Market Structures and the Relationship Between U.S. Marital Fertility and Labor Force Participation," while Peter A. Rogerson (Northwestern University) also received the award, for his paper "Job Turnover and Interregional Migration." Each recipient received a certificate and a prize of $750.

Sidebars. The atmosphere at PAA seemed a little subdued this year, perhaps because of the fiscal cloud that hangs over academia in general these days, and perhaps the (mostly) sunny, far-off ambience of San Diego seemed a world away from the financially troubled world to the East and North in which most population people have to live these days. Also, attendance at West Coast PAA meetings has historically been less than Eastern ones. Nonetheless, a good time was had by all. There were redolent Cal.-Mex restaurants and, for that matter, real Mexican restaurants across the border in Tijuana, just 15 miles south by car or (would you believe) streetcar. And closer to home, the traditional PAA cocktail party could be held outdoors in the late afternoon sunlight of the hotel patio.

The Town and Country Hotel proved a satisfactory locale for the annual meeting. It did have one quirk—being a hotel complex that had been combined out of several independent hotels and motels, it proved to be a labyrinth of different buildings, room numbers, and swimming pools. You were never sure where you were within the complex or what route to take past what palm tree grove, to get to your destination. Or whether the party you were homing in on by sound was the Princeton population contingent or that of the High School Leaders of Tomorrow (or whatever that convention of young people was).

The fourth annual fun run was held at 7 a.m. Saturday morning. Some two dozen hardies ran a 2½ mile route near the hotel. The male winner was Whitney Hicks (University of Missouri), with a time believed to be 15:55. This was Hicks's second victory in a row in this event. The female winner has so far not been identified, despite exhaustive investigation. She is thought to be from the University of Michigan or Wisconsin, and if she will contact INTERCOM, this history of the San Diego PAA meeting can be made complete.

Saturday morning, the last day of the meeting, attendees were busy packing their bags, lining up to check out, and sharing airport cabs as they started their journeys back to the less idyllic regions of the country and world. The metabolism of the meeting is always less on the final morning, after three days of sessions, corridor talk, dinners, field trips, and parties have taken their toll. In the echoing conference rooms, the last sessions were being held, and one discussant was heard to say: ". . . What Dr. Blank did was to collapse the United States—not the real United States, but statistics for the U.S.—into two regions. . . ."

In 1983, PAA holds its annual meeting in Pittsburgh.

—compiled by Janice Beattie, Arthur Haupt,
Jean van der Tak, and Nancy Williamson.

U.S. Contribution to UNFPA

Jean J. Kirkpatrick, the U.S.'s ambassador to the UN, presented an $8.4 million check on May 17 to the UN Fund for Population Activities.

The check represented partial payment of the U.S.'s annual commitment to the UNFPA. By U.S. law, 16 percent of the population account of the U.S. Agency for International Development is earmarked for UNFPA.

"I personally am very enthusiastic about the work of UNFPA," said Kirkpatrick in making the presentation to UNFPA Executive Rafael M. Salas. "It is one of the most important fields of activity in UN endeavors. Anyone who has studied development particularly understands that we cannot hope to significantly contribute to the well-being of people unless we help them with the population growth problem. On behalf of the Administration and the Executive Branch of government, we are pleased to make this contribution as testimony to the ongoing work of UNFPA."

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twenties will remain childless. Family demographic expert Paul Glick adds that up to 10 percent of women now in their twenties may never marry, compared to 4 percent of their mothers' generation. Glick predicts that divorces in the U.S.–now over 1.2 million a year–will continue to mount "until the number of persons in the main age range for divorce (25-40) peaks around 1990." The number of unmarried couples living together will still rise steeply in the 1980s, Glick says, but probably won't triple again as it did in the 1970s. However, such couples–estimated at 1.8 million in 1981–could be up to 7 percent of all couple households by 1990, compared to 3.5 percent in 1981, he predicts.

Reporting on projected trends in life expectancy, Marilyn McMillen of the Social Security Administration says that life expectancy for U.S. men, which was 69.5 years in 1978, will crack the 70-year mark in the 1980s and be up to 71.9 in 1990. Female life expectancy will reach 80 by that date, compared to 77.2 in 1978. As reported elsewhere in the *Bulletin*, recent gains in life expectancy are due mainly to sharp drops since 1968 in the death rates for heart disease and stroke– the first and third main causes of death in the U.S. For cancer–the second leading cause of death–death rates have declined for all but lung cancer among people aged 45 and over.

Populations on the Move

Calvin Beale, who was the first to detect that population was growing faster in rural areas and small towns than in metropolitan areas during the 1970s for the first time in a century, expects this trend to continue "until popular perceptions of life in large cities improve" or the attractions of rural living wane. However, the net flow of migrants from urban to rural areas may lessen in the 1980s, he says, "because some of the bloom is off the economic surge that facilitated nonmetropolitan growth in the 1970s." He points out that unemployment rates are now higher and job growth has been lower since 1978 in nonmetropolitan areas than in metropolitan areas.

Immigration–the big question mark in projecting future U.S. population growth–is tackled by immigration expert Leon Bouvier of PRB. Net legal immigration, including refugees, averaged about 600,000 a year in 1979-81 and accounted for close to a third of the known 2.3 million increase in U.S. population in 1981. Illegal immigration now adds what some estimates put at up to half a million more each year. Bouvier predicts that American's increasing resistance to large numbers of refugees will lower annual refugee ad-

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The Six Population Surprises of the 1970s

by Calvin L. Beale

Calvin Beale is Leader, Economic Research Service, U.S. Department of Agriculture and a long-time member of PRB's Advisory Committee. This article is reprinted from PRB's Population Bulletin *(Vol. 37, No. 2, June 1982) entitled "U.S. Population: Where We Are; Where We're Going."*

It is instructive (and chastening) to review ways in which the course of American demographic trends deviated from what had been foreseen at the beginning of the 1970s despite the increased sophistication of projection models. To my mind, there were at least six major demographic surprises.

1. **Births.** In 1971, the Bureau of the Census issued four projections of births for the 1970s, ranging from 40.1 to 49.3 million. Actual births for the decade proved to be only 33.2 million, 17 percent below the lowest projection, and 23 percent below the lowest widely accepted series. Deferred marriage and childbearing and increased abortion all contributed to produce this result.

2. **Deaths.** In the same Census Bureau projections, deaths for the decade were forecast at about 21 million. The actual number was 19.3 million. Life expectancy was projected to increase by only half a year; instead it rose by 3.4 years. Major gains were made in reducing mortality from heart disease and strokes.

3. **Household size.** A third surprise of the 1970s was the accelerated decline in average household size. In 1970 the average was 3.14 persons per household. In 1968, the Bureau of the Census issued eight projections, the lowest of which for 1980 was 2.88 persons per household, but the two most favored series ranged from 3.08 to 3.19 persons. By 1980, however, actual average household size had plummeted to 2.76 persons. In particular, the creation of small nonfamily households and one-parent households had proceeded far more rapidly than had been foreseen.

4. **The regional shift in population.** Migration to the South and West in the 1970s proved much greater than expected. The most ambitious set of regional projections was a seven-volume work prepared by the Bureau of Economics Analysis (BEA) in 1972. Population growth in the Southern New England, Mid-Atlantic, and East North Central states from 1970 to 1980 was only 1.1 million against a projected 7.6 million, whereas the West grew by double the predicted rate (8.3 vs. 4.0 million) and the South rose by three-fifths more than expected (12.5 million vs. 7.8 million.)

5. **Growth of nonmetropolitan population.** Perhaps the most surprising trend of all was the revival of rural and small town population growth. No one seems to have been on record as forecasting the nonmetropolitan growth rate to be higher than the metropolitan rate in the 1970s. The BEA projection, referred to above, foresaw metropolitan growth of 11.4 percent and nonmetropolitan of 5.3 percent. Instead, metropolitan countries grew by 9.8 percent, but the nonmetropolitan growth was 15.8 percent, or triple the projected rate.

6. **The role of illegal and refugee immigration.** By its nature, illegal immigration is difficult to estimate, much less to predict. Whatever its true amount, the consensus seems to be that it rose to major proportions during the 1970s, and became a significant factor in population growth. A further source of unanticipated growth was the influx of refugees–Indochinese in particular.

It is not my point in recounting these surprises to imply criticism of the forecasters, although I think some is merited in particular cases. I view the problem as generic. The demand for projections is insatiable. But, the ability to project inflections and changes in human behavior is limited–and will probably continue to be so.

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 62 countries, will appear in INTERCOM as results become available.

Lesotho

The Kingdom of Lesotho has recently released the results of the Lesotho Fertility Survey (LFS), taken in 1977 as a part of the World Fertility Survey program. Formerly known as Basutoland, Lesotho gained independence from Britain in 1966. The country, slightly larger than the state of Maryland, is mountainous over much of its territory, with the agricultural zone located in the western lowlands. A striking feature of the country's economy is the heavy dependence upon the income of workers employed in the mining industry of South Africa, a nation in which Lesotho is wholly contained.

About 85 percent of the population is engaged in agriculture and this rural society places strong importance on the birth of children. Children are often considered assets for religious and ancestral reasons and are frequently of genuine economic value as in other agrarian societies.

Analysis of birth history data from the survey indicates that Lesotho's total fertility rate in 1977 estimated that women would have an average of about six children each during their lifetime. These data also indicated that fertility in Lesotho has probably been constant at that level for some time.

The government has adopted an official policy to reduce the birth rate or, as the UN describes it, "a cautious control of fertility to complement social and economic measures aimed at rapid increase of the national product." Projections of Lesotho's population, however, suggest that any immediate decrease in the country's rate of population growth will be difficult. UN medium variant projections (which assume a decrease in the TFR from six children per woman to about four by 2000), indicate that Lesotho's rate of population growth will actually increase slightly from the present estimated rate of 2.4 percent annually to 2.5 since anticipated improving health conditions should lower death rates and offset decreases in the birth rate. With moderate reductions in fertility, UN projections call for an approximate tripling of the country's present 1.4 million people.

Marriage is virtually universal in Lesotho; about one-third of women marry before their 20th birthday and about 80 percent before they are 25. These percentages are not quite as high as many other African countries, however; it is likely that the emigration of males for employment has some effect upon marital patterns.

The survey reported that, while two-thirds of the sample stated that they had heard of some method of contraception, actual use of a method was very low. Only about 3.5 percent of the women reported that they were using an efficient method, while an approximately equal number said that withdrawal was their primary method. Not only is current use low, but intended future use of contraception is not widespread. Even among the youngest cohort, ages 15-24, 56 percent stated that they had no intention to use family planning at all. As the survey report states, "The concept of deliberate fertility regulation is not rooted in the minds of a larger number of women in Lesotho."

There is a large differential in contraceptive use between women who wish to continue childbearing and those who do not. About one in five women who want no more children were currently using a method, while for those who wished to continue childbearing, the figure was five percent. The survey report notes that the fact that 80 percent of women who wish to stop bearing children are not doing so may in part be explained by simple lack of information and access to a method. Nonetheless, when asked how many children they desired, even the youngest women gave 5 to 6 as an answer, the approximate present level of the TFR.

The survey also analyzed data on infant and child mortality which indicate that, of all children born to the women interviewed, about 20 percent had died. For mothers with no education, this heavy toll of mortality had occurred before the children's second birthday, while the rate was about half that for the highest educational group.

Lesotho provides an interesting example of a country whose government views future population growth as a potential constraint to development in a country with limited space and an economy dependent upon external sources. The traditional concepts of childbearing in this rural country will doubtlessly pose a real challenge to any family planning program. ☐

Continued from preceding page

missions to between 75,000 and 100,000 in the next few years, down from an average 200,000 a year in 1979-1981. However, he predicts that annual legal immigration could still average as high as 620,000 during the remainder of the 1980s. This is because large numbers of refugees already in the country will be applying for citizenship after five years of residence and will then be able to bring in spouses, minor children and parents who are not subject to the current annual quota of 270,000 for legal immigrants. Projecting illegal immigration at 350,000 to half a million a year, Bouvier sees legal plus illegal immigration adding up to between 900,000 and 1.1 million a year in the 1980s. Subtracting out emigration estimated at 100,000 to 150,000 a year leaves a net of three-quarters of a million to almost 1 million. "Immigration at these levels rules out the possibility of reaching a quasi-stationary population in the near future," Bouvier remarks, "and promises a change in the makeup of U.S. society that presents Americans with a challenge similar to that of the large numbers of European immigrants who entered at the beginning of the 20th century." ☐

Additional copies of the 50-page *Bulletin*, "U.S. Population: Where We Are; Where We're Going" (Vol. 37, No. 2), containing these forecasts for the 1980s along with a comprehensive review by PRB staff of recent demographic trends and the outlook for long-term population growth, can be ordered from PRB's Circulation Dept., P.O. Box 35012, Washington, D.C. 20013, at $3.00 each; 2-10 copies $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Colored 35 mm slides of the *Bulletin's* 27 charts and tables are available at $13.50 per set. Orders of $20 and under must be prepaid. Add $1.00 for handling on orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered for postage and handling.

world food news

The head of the Food and Agriculture Organization (FAO) of the United Nations has warned that despite the good harvests of 1981, the world should not be deceived that the food problem has abated. "Hunger is spreading. Emergency situations are multiplying. The poor countries are exhausting themselves to import just enough to survive," said FAO Director General Edouard Saouma last month in Rome.

Saouma spoke before the Committee on Food Aid Policies and Programs, the governing body of the World Food Program (WFP), administered jointly by the United Nations.

Though world food production increased by 2.4 percent in 1981, he said, "This progress is unequally distributed and there are very marked regional differences."

He stated that "the best performance was recorded in Asia and the Far East, with an increase in food production of 6 percent. Latin America also gathered in good harvests. In the Near East, though, there was only marginal increase in total production, and a distinct fall in production per capita... The situation in Africa continues to be particularly worrying: food production rose by barely 2 percent, or well below the 3 percent growth in population."

Last month's meeting of FAO's Committee on World Food Security noted that despite recent increases in world cereal production, 37 developing countries had recorded negative growth rates in cereal output on a per capita basis and that 19 of these had experienced an actual decline in total output.

It expressed "deep concern" over lagging food production in low-income food-deficit countries, particularly in Africa, and warned that the improved global food supply situation "should not obscure the continuing and long-term nature of the food problems" in low-income countries.

It noted that world cereal production had risen by 6 percent in 1981 from 1.4 billion tons in 1980, but that in the low-income countries as a group the production increase was "only marginally" above the rate of population growth.

Referring to the constant diminution of total food aid during the past three years, which showed decreases from 9.5 million tons in 1978-79, to 9 million in 1970-1980, to 8.4 million in 1980-1981, Saouma noted that, for the current two years (1981-1982), "only 77 percent of the target of [$1 billion] has been attained to date... We have only eight months left and I earnestly hope that additional contributions will be forthcoming to make up the necessary total."

Concerning emergencies, Saouma recalled that he had proposed the adoption of a legally binding convention so as to ensure stable resources on a permanent basis. "A really multilateral reserve, with guaranteed resources and progressively adapted to requirements, is more necessary than ever, at a time when all the other discussions on world food security are at a standstill," he declared.

However, Saouma welcomed the fact that the WFP Pledging Conference for the 1983-84 period, held in New York during March, had produced good results, since more than $680 million was pledged by donors.

During 1981, WFP transported some 1.5 million tons of food but its administrative overheads barely reached 6 percent, Saouma pointed out.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

Vital Statistics Update

U.S. Birth Rate—Down Again?

The U.S. birth rate turned downward with the 12 month period ending in February, 1982, according to provisional data just released by the National Center for Health Statistics. The crude birth rate was 15.8 births per 1,000 population, down from 16.0 for the corresponding period one year ago. For a year, the crude birth rate had been holding at 15.9 births per 1,000 population in NCHS' successive issues of *Monthly Vital Statistics Report*. Since 1976, when U.S. fertility was at an all-time low, the birth rate had been slowly rising (except for a temporary downturn in 1978), but now gives the impression of levelling off.

Although the future fertility behavior of American women is unknown, it appears that the nation's total fertility rate may be settling near an average of 1.8 lifetime births per woman. But, while it is tempting to think of 1.8 children per woman as a relatively permanent fixture, it is also rather dangerous given the often erratic nature of the birth rate in the past.

There are strong indications that recent fluctuations in the country's TFR are not caused so much by how many children a woman might have, but when she might have them. The rate for women 30-34 rose to 61.6 births per 1,000 women in that age group in 1979 from a low of 53.1 in 1975. In addition, the likelihood of a woman living birth in the latter half of her 20s was exactly equal to her having a child in her early 20s. Previously, of course, birth rates were higher for women 20-24 than 25-29. These data certainly give a strong indication that the rise in the U.S. TFR in the late 1970s was in large part due to delayed childbearing and a noteworthy redistribution of births by age of mother.

Note: the National Center for Health Statistics is in the process of recalculating birth rates for the 1970s based upon new population estimates. Since the 1980 Census counted over 5 million more persons than previous estimates of U.S. population had indicated, many rates published for the 1970s have been "too high" since the estimated denominators would have been smaller than ultimately found in the Census. These new rates will probably not materially affect any of the conclusions on birth patterns by age of mother, however.

Latest Provisional Statistics for the U.S.: February 1982

	12 months ending with February				
	Number		Rate		
Item	1982	1981	1982	1981	1980
Live births	3,637,000	3,638,000	15.8	16.0	15.5
Deaths.........	1,950,000	2,011,000	8.5	8.8	8.6
Natural increase	1,687,000	1,627,000	7.3	7.2	6.9
Marriages	2,426,000	2,409,000	10.6	10.6	10.6
Divorces	1,213,000	1,182,000	5.3	5.2	5.2
Infant deaths ...	42,300	44,900	11.6	12.3	12.9
Population base (in millions) ..	...	...	229.8	227.6	225.1

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 31, No. 2) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

THE DEMOGRAPHIC SITUATION IN INDIA: Papers of the East-West Population Institute, No. 80. By Mahendra K. Premi. Honolulu, HI.: East-West Center, 1982. 152 pp. $2.50 with a limited number of copies available to libraries, population specialists, and governmental agencies. LC 82-1509.

This extensive demographic profile of India, projected to become the world's largest country in population, was prepared by the author during his fellowship at the Institute during 1980-1981. The author summarizes population growth in India through history and includes many statistical tables, concentrating on the period since 1960. He notes that population growth has been steady in India since about 1921, the year of the "Great Divide" when large-scale population loss due to famines and epidemics ceased. Since independence in 1947, the population has nearly doubled from 348 million to 684 million in 1981. The author notes that there is now a prospect of slow reduction in the growth rate since the Indian crude birth rate has declined from about 42 in the 1950s to about 35 at present. He points out that although as many as 40 million births may have been averted since 1961, family planning must be augmented with many other facets of social and economic development. This book contains a summary of a wide range of population and population-related data such as age misreporting, topography, and a brief census history and should serve as a valuable demographic handbook for India.

—Carl Haub

MEETING THE FAMILY PLANNING NEEDS OF THE URBAN POOR, by Malcolm Potts and Pouru P. Bhiwandiwala. International Fertility Research Program, Research Triangle Park, N.C. 27709, 1981. 93 pp. Single copies available on request. ISBN 0-939704-03-X. LC 81-7184.

In September 1980 the International Fertility Research Program (IFRP) sponsored an international meeting in Juarez, Mexico, to evaluate the most appropriate ways to deliver family planning services to the urban poor of rapidly expanding Third World cities. This report summarizes in a clear and easy-to-read manner the information exchanged during that meeting.

Family planning in urban slums presents special needs and opportunities. For example, the population density of slum areas makes it logistically possible to establish door-to-door distribution of contraceptives, which may accelerate the adoption of family planning in a culturally acceptable way. On the other hand, there are special, urban problems, such as a more sexually active teenage population, that may not be found in rural areas.

IFRP's report gives practical advice on the promotion of family planning, how to manage a program, and how to use the urban structure to advantage. It also delineates the plan of action espoused at the IFRP sponsored meeting (including recommendations to make orals available without prescription, to regulate public advertising of infant feeding formulas, and to introduce family life education in schools, to name a few). Dispersed throughout the six sections are brief and interesting case histories of family planning efforts in different urban areas of the world. One tells of how a new Muslim mother in a Dacca ghetto is expected to lie with her baby on a floor mat for 40 days because she is considered "unclean" during and after childbirth.

Although generally useful and covering a wide area with considerable proficiency, in parts the book is sketchy as, for example, when it discusses the advantages and (particularly) the disadvantages of a number of contraceptive methods.

—Mary Barberis

THE WORLD IN FIGURES, compiled by *The Economist*. 3rd edition. London: The Economist Newspaper Ltd., 1981. (Distributed by Gale Research Company, Detroit, Mich.) 294 pp. $55.00. ISBN 0-85058-046-3.

This is a book every reference librarian will want to have close at hand. An astonishing amount of statistical and factual information is provided for more than 200 countries in a clear, concise, easy-to-use format. For each country is given: location (illustrated with a small map), land area, climate, time (in relation to Greenwich Mean Time), measurement system, currency, a political and economic summary, followed by subsections giving details of population including distribution, language, religion, racial or ethnic groups and standard of living (e.g., income per person, energy consumption, number of telephones, newspapers), resources and equipment (e.g., number of hospital beds), production, finance, and foreign trade. The first part of the book gives various world tables, including population, gross domestic product, standard of living, education, labor force, health, communications, agriculture, transportation, trade, etc., enabling quick comparisons to be made among countries.

Sources of information include publications of the United Nations, the World Bank, International Labour Office, Food and Agriculture Organization, Organisation for Economic Co-operation and Development, and external trade yearbooks and monthly bulletins of individual countries. There is a glossary, table of contents, index, and a table of conversion factors.

—Barbara Bower

NEIGHBORS: Mexico and the United States, Wetbacks and Oil, by R.J. Shafer and D. Mabry. Chicago: Nelson-Hall, 1981. 241 pp. $18.95; $9.95 paper. ISBN 0-88229-726-0; 0-88229-781-3. LC 81-11074.

THE POPULATION OF MEXICO: Trends, Issues, and Policies, by F. Alba. New Brunswick, N.J.: Transaction Books, Rutgers—The State University, 1977. 241 pp. $24.95. ISBN 0-87855-359-2. LC 81-1432.

Mexico currently has a surplus of two commodities of particular interest to the United States: oil and migrant labor. Characteristic of a period of poor economic performance, the cry is being raised to restrict the influx of the latter, with particular attention being given to enforcing the prohibitions against illegal entry. The current debate differs from earlier versions, however, because of our awkward reliance on imported oil, a resource which Mexico has been found to have a potful of. Shafer and Mabry document our relationship with Mexico relative to these two issues. Perspectives on population flows are offered for the non-Hispanic majority and for the resident Chicano community. A description is also included of the development of the Mexican oil industry and of the political and economic repercussions of the new found oil. In the last section worth reading (the scenarios chapter hardly seems worth the effort), attention is given to the diplomatic solutions that might reduce tensions resulting from this new set of circumstances.

Alba, in **The Population of Mexico,** portrays the demographic process in the country from the pre-Columbian period to the present, putting the observed events into a larger socio-economic context. As fate would have it, however, the book was written in 1976, too early to have given full appreciation to the implications of increased petroleum production or to an impressive reduction in fertility levels. These events seem to have unfairly undermined the author's judiciously developed argument for a concerted, comprehensive population policy. If one avoids the now-dated population prognosis, Alba's descriptions of Mexico's demographic past and present make worthwhile reading.

—Cary Davis

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USSR's Demographics Pose Challenges to Kremlin

by Jean van der Tak

Waning population growth in the Soviet Union has leaders worried that there won't be enough new workers during the 1980s to boost the country's stalling economy or sufficient draftees to maintain the current 4.8 million level of its armed forces. Soviet authorities are also worried about changes in the complexion of the work force and army resulting from fertility that is so low among the dominant ethnic Russians that they will cease to be the national majority before the end of the century, while fertility continues high among Central Asian Muslim minorities. New regionally differentiated pronatalist measures announced last year are probably too limited to change this picture, says Murray Feshbach in PRB's *Bulletin* for August, "The Soviet Union: Population Trends and Dilemmas."

Feshbach also doubts that Soviet leaders can do much to improve the nation's health-care system in an effort to reverse a 50 percent rise in the national death rate and possible five-year drop in male life expectancy since 1964, because most capital investment must now go to agriculture, energy, and defense.

Regarded as the leading U.S. authority on the Soviet population, Feshbach was a Soviet specialist in the U.S. Census Bureau's Foreign Demographic Analysis Division before his recent move to Georgetown University in Washington, D.C., where he is Senior Research Scholar in the Center for Population Research. His 1980 report, co-authored with Christopher Davis, on *Rising Infant Mortality in the U.S.S.R. in the 1970's*, focused worldwide attention on this adverse trend and may have prompted an unprecedented June 1981 press conference in Moscow. There a state planner reported the first official Soviet figures on infant mortality and life expectancy to be released since the early 1970s and attempted to explain away the mortality rise as due solely to better statistical reporting.

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Everything You Wanted to Know About Your State's Population

Want to know detailed 1980 Census data about your state? Such diverse information as: largest cities, the percentage of houses without air conditioning the percentage of people speaking Spanish at home?

These and over 100 other demographic nuggets are now available in PRB's new State Population Profiles. Profiles are notebook-size summaries of state-wide data in various categories: fertility, housing, income, etc. Equivalent national statistics are displayed alongside for comparison.

Prior to this series of 50 Profiles, the information (from numerous government agencies) had not been gathered together in one place, and was not particularly easy to come by (the delayed 1980 Census data, in particular). Preparing this data in concise summary form for limited distribution has been a special PRB project.

Each Profile consists of six to 10 pages of organized data, contained in an easy-open binder. To order, ask for the *Population Profile of [state name]* and send check and remittance to PRB, Circulation Dept., 1337 Connecticut Ave. NW, Washington, D.C. 20036. Cost of the first Profile of each state is $5.00; for additional copies of the same state, cost is $2.00.

Third World → U.S. In 1981, the population of the less developed countries increased by about 70.3 million people, according to figures on PRB's *World Population Data Sheet* for that year. In that year as well, the U.S. accepted some 697,000 legal immigrants, mostly from Latin America and Asia, plus an undetermined but significant number of illegal immigrants, mostly from Latin America. What do these numbers mean, taken together? They suggest that the migration flow from the Third World to the U.S. each year is equivalent to at least 1 percent of the Third World's annual population increase.

UNFPA's 1982 Report

How the World's Growth Rate Peaked, Then Declined

Eight years have now elapsed since country representatives at the 1974 World Population Conference in Bucharest acknowledged the scope and complexity of the world's population problem. Significant progress has been made since that time, reports Rafael M. Salas, Executive Director of the UN Fund for Population Activities. In his new report on the *State of World Population: 1982* Salas details the changes in population numbers and attitudes that have taken place during the 1970s and the early 1980s.

From the period 1965-1970 to the period 1975-1980, the world's birth rate has declined by 12.97 percent; in the less developed world, the decline was 16.2 percent, according to UN figures. The growth rate, which reached a peak of 1.99 percent annually in 1960-1965, has been declining ever since and was 1.72 percent during 1975-1980. (The UN also gives a medium variant projection for 2000 of a world population of 6.1 billion people,* and the prospect of world population stabilizing at 10.5 billion in 2110.)

The downturn in growth is due in large part to a major change in national perceptions of population problems. Whereas two decades ago, no country had a population policy, today, "about 80 percent of the total population of the developing world reside in countries which consider the levels of their fertility too high and want them reduced," reports Salas. "By contrast, countries with only 3 percent of the populations of the developing world would like their fertility rates increased. The remaining 17 percent of the population live in countries which are satisfied with their current levels of fertility."

Much remains to be done, Salas points out. While many countries have experienced significant fertility declines (particularly in Asia), population programs have had the least impact in Africa. There birth rates of 45 births per 1,000 population are still common, and 32 governments have not decided on any commitment to reduce their countries birth rates. There also, infant mortality rates are in the range of 90 to 170 infant deaths per 1,000 live births.

The World Population Plan of Action formulated at Bucharest made a hopeful projection that developing-world growth rates might decline from 2.4 percent in 1974 to 2 percent by 1985. The UN now projects that that figure will be reached. However, the plan's hope that the world might reach a life expectancy of 74 years by 2000 now seems too optimistic. The developing countries may reach a life expectancy of only 63 or 64 by that date.

The International Conference on Population in 1984 (according to reports, quite possibly in Mexico City) presents an opportunity to assess progress since Bucharest, and to identify new population problems. These include, Salas writes, uncontrolled urban growth, the new patterns of migration, and the prospects that some developing countries may be faced with the novel but serious problem of handling a suddenly aging population as a result of their rapid fertility declines. ☐

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*Some news accounts of the *State of World Population: 1982* stated that the UN's latest projection of 6.1 billion people in 2000 was a drastic "20 percent less" than the "7.5 billion" previously predicted by international agencies. This gave the misperception of some breakthrough in population programs.

In fact, the magic "7.5 billion" figure comes from a 1963 UN projection that assumed that world fertility would continue unchanged at the high rates of the 1950s. This assumption was for argument's sake (what if world fertility remained unchanged . . .). But in the 1950s and 1960s, the UN's normal projections assumed (as they do now) some decline in fertility during the rest of the century. The world population total in 2000, according to the UN's medium-variant projection made in 1957, was 6.3 billion people. In 1963 the medium-variant projection had dropped to 6.1 billion. Nineteen years later, in 1982, the medium-variant projection is still . . .6.1 billion people.

Judging by population projections, anyway, the last two decades may have seen progress, but no unforeseen breakthroughs.

China Holds Biggest-Ever Census

On July 1, China began taking its third census since the Communist revolution, and the largest population tally in history. For the most part, the population has traveled to the census rather than vice versa, as during the 10-day census period, heads of households reported their family data at census stations located at nearby schoolyards, hospitals, etc. An estimated 5 million census workers are involved in the operation, and the *Washington Post* reports a total cost of $200 million.

Practice runs prior to the actual census produced counts well within 1 percent of estimates. So the national census may bear out the government's 1 billion estimate for the present mainland population. The Chinese census includes questions on family size, marital status, occupation and education, and other socioeconomic status–information that should help sharpen population forecasts and improve family planning programs.

When the census period is over, the tallies will be checked and confirmed locally, and finally processed by 29 computers imported with UN help. (UN Fund for Population Activities Director Rafael M. Salas is in China to observe the census.) While detailed processing of the mountain of responses will take years, some national results, including the grand total of the counted population, are expected to be ready for release in late October.

Australian Census Results. The June 30, 1981, Australian Census counted a total resident population of 14,844,700, according to figures recently reported by the Australian Population Association. This figure includes an adjustment for undercount, which was estimated at 1.8 percent. Australia's growth rate since the previous 1976 Census was 1.3 percent annually (counting only Australian residents both in and out of the country).

Remember the 1980 Census?

Detailed Census Results Trickling Out, with More to Come

The 1980 Census results are late being published – a year or more late, compared to the original, "optimistic" schedule. The reasons, according to the Census Bureau, are the processing of 5 million unexpected people uncovered by the Census; budget and planning uncertainties caused by having to operate on a continuing resolution rather than a new budget; the new, postcensus process of local review by the constituencies, which turned out to be more involved than anticipated; and the lawsuits, against the Bureau, most of which have been either resolved or are currently in suspension.

The consequence is that now, in mid-1982, the main population counts and some national and state data from the short census form have been published. But the "main course" of the 1980 Census is still to come: the data for very small geographic areas (right down to individual city blocks) and for all items on the "sample," or long, census form that went out to 20 percent of the U.S. population ("which fuel is used most for cooking?" and other similarly detailed questions). Without such data, planners and analysts (in any field, from opinion polls to locations of fast-food outlets) are at a disadvantage, and must continue to make do with what are essentially projected and warmed-over 1970 Census data. Meanwhile, the unpublished 1980 data aren't getting any younger; the $1 billion decennial census took a "national snapshot" that is over two years old now.

At any rate, this year the sample data are beginning to come out, and the Census Bureau is taking short cuts to disseminate at least part of these data quickly. Back in April, the Bureau released "Provisional Estimates of Social, Economic, and Housing Characteristics" (PHC80-S1-1), a data compilation based on a *sample* (3.5 million people) of the long-form data. (See INTERCOM, April 1982.) While this one-volume report painted only a broad-brush portrait of the U.S. (the most detailed unit was metropolitan areas of more than 1 million people), it represented the first full glimpse of the long-form characteristics. It will be supplanted in September 1982 by a new Provisional Estimates (same title, PHC80-S1-2), published in volumes by state and giving more extensive data from all the long forms, down to the county level and places of more than 25,000. This supplement will make it easier until such important publications as "General Social and Economic Characteristics" (PC80-1-C) start appearing at the end of 1982 or early 1983.

In addition, the Census Bureau is offering "prepublication tables" – photocopies of the short-form data from such as-yet unpublished reports as "Census Tracts" (PHC80-2), "Summary Characteristics for Governmental Units and Standard Metropolitan Statistical Areas" (PHC-80-3), and "Congressional Districts of the 98th Congress" (PHC80-4).

Finally, the ZIP Code tabulations, originally scheduled to be part of the Summary Tape Files but cancelled because of budget constraints, are alive again. National Planning Data Corp. of Ithaca, N.Y. is providing $250,000 to the Census Bureau, which will now produce the long-form data organized by ZIP Code, a tabulation useful to many firms who do advertising or business by mail, who will now have to purchase the information.☐

To subscribe to the monthly *Data User News*, which announces and describes new Census publications ($19.00 per year); and also purchase the 1980 Census *Users Guide, Part A. Text* (S/N 003-024-03625-8, $5.50), send order to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. To subscribe to the Census Bureau's *Monthly Product Announcement* (free), or to order "prepublication tables" (prices available on request), contact the Data User Services Division, Customer Services, Bureau of the Census, Washington, D.C. 20233.

Does Sex Education Cause Sex? Speculation has run freely over that controversial and difficult-to-answer question. Now, writing in the May/June issue of *Family Planning Perspectives*, Melvin Zelnik and Young J. Kim report new results from the 1976 and 1979 Johns Hopkins surveys of young U.S. men and women. These surveys indicate that teenage women who had taken sex education were no more likely to engage in sexual intercourse than those who had never taken such a course. They were somewhat more likely to have practiced contraception at first intercourse (but not more likely to have used a prescription contraceptive) than those who had first intercourse but who had not taken such a course. Three-quarters of the teenagers living in U.S. metropolitan areas have taken sex education courses in school, and of these, eight out of 10 report receiving contraceptive information as part of the course.

"Squeal Rule" Hanging Fire. The proposed regulations requiring parental notification when teenagers receive federally subsidized contraceptives (see INTERCOM, March 1982) remain in at least temporary limbo following the close of the public-comment period in May. Observers believe that the basic requirement (dubbed the "squeal rule" by opponents), will probably be retained in the finalized regulations, which are not likely to be published until November or later. Although some 50,000 letters were received, mostly against the rule according to reports, department officials have warned that the comments will not be treated as a "referendum." Should the regulations requiring notification be put into effect, however, a number of public-interest organizations, including Planned Parenthood and the American Civil Liberties Union have indicated they will mount a court challenge. Planned Parenthood has indicated that it would forego federal money if required to abide by the regulations.

U.S. Population Center Waits for No Person

On June 5, 1982, a group of local officials, Census Bureau representatives, and national TV media gathered at a spot in the Missouri woods. They were there to dedicate a four-inch copper disk mounted on a concrete base set into the forest floor.

The disk marks the National Center of Population, as calculated from the 1980 Census. It is the country's population "center of gravity"–the point at which an imaginary, weightless map of the United States would balance if equal weights, each representing the location of one person in the population, were placed upon it. At the time of the first, 1790, Census, the population center stood on Maryland's Eastern Shore. Since then, it has moved west about 750 miles and south about 80 miles, reflecting the enlargement of the country to 50 states and the internal migration of the population west and south. Its path has taken it through Virginia, West Virginia, Ohio, and Indiana. As of the 1970 Census, it had reached St. Claire County in southern Illinois.

NATIONAL GEODETIC SURVEY
LAT 38° 8'13"N
LONG 90° 34'26"W
JEFFERSON COUNTY, MO
CENSUS 1980
CENTER OF POPULATION
NOAA
DEPARTMENT OF COMMERCE

U.S. Census Bureau

During the 1970s, the center of population moved across the Mississippi River. Census Bureau geographers, using computers, have pinpointed the 1980 Census population center at Lat. 38° 8' 13" North, Long. 90° 34' 26" West.

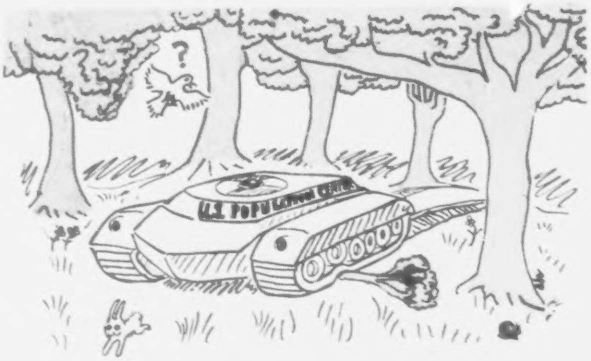
This location, about 40 miles southwest of the Gateway Arch in St. Louis, lies within a wooded area along State Highway "N," about a mile west of the city hall of DeSoto, Mo. (A map in the March 1981 INTERCOM was a little off, showing the center east of DeSoto.) The woods are the property of Henry Koch, an assistant to Missouri's secretary of state. Besides the copper disk, a commemorative plaque and flagpole now mark the spot, and the Census Bureau reports that Koch is developing the site into the "Koch Center of Population Park."

However . . .

A population center is not a fixed, immutable location, but rather, a point whose position changes along with the changing population distribution of the country around it. So even while the calculations and ceremony to mark the 1980 spot were going on, the "real," unknowable center of U.S. population had already moved somewhere over the horizon.

True, the DeSoto site represents the center's last known whereabouts; calculating such a point requires a lot of computer time and the kind of detailed geographic data only a full census can give. But during the 1970s, the center crept west southwest from Illinois to Missouri at the average rate of about 75½ feet every day. It's reasonable to assume that the center has kept on going at the same rate, and was actually 11.39 miles southwest of DeSoto on June 5, 1982, possibly near the town of Old Mines.

Instead of being on a fixed concrete slab, the ideal center-of-population marker might best be mounted on a self-propelled caterpillar tractor. Chugging across the Missouri landscape at a stately 0.0006 miles per hour, it would pose little danger to traffic. And notwithstanding the lack of detailed geographic data available between censuses, the driverless "mobile monument" could still keep itself accurately positioned on an inexorable course toward the Sun Belt. All a self-propelled U.S. population marker needs to keep on course, really, is a simple photoelectric cell so that it can follow the sun. ☐



The Supreme Court and Abortion. The U.S. Supreme Court has agreed to hear arguments on five cases involving abortion in its 1982-1983 term. None of the cases challenges the historic Roe v. Wade decision that women have the right to abortion. The cases do, however, concern state or city laws that restrict or control access to abortion, and some legal observers think the high court may now be receptive to such arguments. These laws include Akron, Ohio's, requirement that a woman have a 24-hour waiting period following a request for an abortion and receive counseling from a physician that a fetus "is a human life from the moment of conception." Arguments will be heard in the fall of 1982 and the decisions handed down in the spring of 1983.

IDRC Support. The International Development Research Centre in Ottawa has announced its current program of support in the field of population and development research. IDRC aims to assist researchers in Third World countries to increase their knowledge of population problems and their relevance to development. Presently, IDRC is concentrating on the following topics: infant mortality, international migration, integrated family planning and development programs, fertility, resettlement, and internal migration. The program, which includes research grants and other support, is restricted to Third World institutions. For information on how to apply, institutions should contact the Population and Development Research Program, Social Sciences Division, IDRC, P.O. Box 8500, Ottawa, Canada K1G 3H9.

What Is Carrying Capacity And Is the U.S.'s < 230 Million?

The carrying capacity of an area is an ecological population concept: the number of organisms that area can support indefinitely without impoverishing or degrading that area.

Carrying Capacity is also a population organization – a Washington-based research and education group founded in 1981. Its concern is U.S. population size, from the ecological point of view that the U.S. should tailor its "numbers and consumption to the carrying capacity of our resources."

Carrying Capacity does not set any specific population goals; the group's main thrust is that the most desirable level of population is a function of the environment's ability to support it. Based on current knowledge of what that carrying capacity may be, Dr. Ed Passerini, the organization's chairperson, writes, "We believe it would be far wiser to pursue a population policy that encourages stabilizing U.S. population at a size smaller than today's and to turn to much more efficient resource use."

In a new study, *U.S. Carrying Capacity: An Introduction*, Judith Jacobsen and Maryla Webb of Carrying Capacity spell out the ecological problems facing the U.S. Four systems – cropland, rangelands, forests, and the maritime fishery – are in danger of deteriorating because of demands on them caused by population pressures. That these systems have reached the limits of their carrying capacity, say Jacobsen and Webb, is being obscured by the lavish use of energy to increase their output (e.g., extensive mechanization and use of petroleum-based fertilizers). But by 2000, 90 percent of estimated U.S. oil and natural gas supplies will be exhausted. At that point, if not before, the relationship between the U.S. population and the U.S.'s true carrying capacity will become clear.

To make that relationship more harmonious, *Carrying Capacity* recommends cutting per capita consumption of resources and lowering U.S. fertility, which the authors believe can be done simply by ensuring that full family planning services are available and by improving contraceptive methods. Unlike some other organizations in the population field, Carrying Capacity does not hold restrictive views toward immigration per se; it is mainly concerned that whatever mix of fertility and immigration levels there is results in a population geared to the country's carrying capacity.

Some illustrative goals make this point. The U.S. total fertility rate is presently 1.9 children per woman. With a total fertility rate of 1.4 (a little below West Germany's), and annual immigration of 1 million, the U.S. would decline to a population of 200 million people in 100 years. With 1.4 fertility and 500,000, it would reach 150 million at that point. With a very low 1.1 fertility and 500,000, the U.S. would reach 100 million. (These projections were prepared for Carrying Capacity by PRB.)

Whatever the future U.S. population turns out to be, Carrying Capacity's concern is to urge that it be considered in the context of carrying capacity and to show that a turn away from growth is demographically feasible. □

U.S. Carrying Capacity: An Introduction by Maryla Webb and Judith Jacobsen is available from Carrying Capacity, 1735 DeSales St. N.W., 8th Floor, Washington D.C. 20036. Single copies are $3.00 each, additional copies $2.50 each, postpaid. (D.C. residents add 12 cents per copy sales tax.)

Latin America and

Third of a series
prepared by Carl Haub

With this summary of population policies in countries of Latin America and Oceania, INTERCOM continues a five-part series designed to provide a quick reference source of population policies for a majority of the world's countries. The next issue will feature the developed countries, and the fifth and final installment will summarize the percentage of the world and regional populations living in countries with specific classifications of population policies.

Presenting the population policies of the world's countries in a tabular format for easy reference has advantages and disadvantages. An overview of countries' assessments of the importance (or lack of it) of population growth in their future development can be of value, but in the process of classifying the many shades of gray of government policies, much important detail is necessarily lost. Readers interested in obtaining a more detailed understanding of a particular country's policy should consult other, more comprehensive references, such as those listed in the references (upon which this summary was based).

Of the 44 countries shown, exactly half have governments that feel their present rates of growth are too high and may place constraints on future development efforts. On the South American continent, government policies are either nonexistent or more concerned with raising the birth rate. Only Colombia considers high birth rates a potential problem, but is satisfied with its recent decline in fertility. A number of South American countries are decidedly pronatalist, a policy which stems in part from a desire to populate rural areas and perhaps from xenophobic atitudes resulting from past hostilities. Such policies can particularly be observed in the Southern "cone" countries: Argentina, Chile, Paraguay, and Uruguay. Although Brazil, which contains one-third of Latin America's population, has no stated policy, the United Nations reports that recent statements by the government may signal an eventual modification of this attitude.

Classifying a country's policy is not a cut-and-dried process. A country may feel its birth rate is too high and permit or encourage family planning services to be provided either by a private organization or government clinics ostensibly to improve maternal and child health, but recognize that the very availability of such services will eventually form a basis for a long-term fertility reduction.

The classification of services as "available" or "limited" can also be difficult. While governments may not restrict the availability of services *per se*, actually obtaining them may be very difficult, particularly in rural areas. The involvement of the government in the support of family planning can be taken as one indicator of the likely present and future ease of access to services. Finally, the government's motivation for permitting or encouraging services can be classified as for the purpose of improving maternal and child health or as "demographic", i.e., a specific goal of reducing the population growth rate by encouraging smaller family sizes. Mexico, for example, has set a goal of reducing the growth rate to 1.0 percent by 2000.

INTERCOM hopes that this series will prove to be of value and welcomes any comments or new information from readers which can be incorporated in future issues. □

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Oceania: A National Population Summary

Country	Government perception of population growth rate	Family planning availability/ government support availability	Reason for permitting family planning
Middle America			
Belize	Satisfactory	—	—
Costa Rica	Too high	Avail/Govt support	Demographic/Maternal/child health
El Salvador	Too high	Avail/Govt support	Demographic/Maternal/child health
Guatemala	Too high	Avail/Govt support	Demographic/Maternal/child health
Honduras	Satisfactory	Avail/Govt support	Maternal/child health
Mexico	Too high	Avail/Strong govt support	Demographic
Nicaragua	Too high	Avail/Govt support	Maternal/child health
Panama	Satisfactory	Avail/Govt support	Maternal/child health
Caribbean			
Antigua and Barbuda	—	Avail/Some govt support	Maternal/child health
Bahamas	Too high	Avail/Some govt support	Demographic
Barbados	Too high	Avail/Govt support	Demographic
Cuba[a]	Satisfactory	Avail/Govt support	Maternal/child health
Dominica	Too high	Avail/Govt support	Demographic
Dominican Republic	Too high	Avail/Govt support	Demographic/Maternal/child health
Grenada	Too high	Avail/Govt support	Demographic
Guadeloupe	Too high	Avail/Govt support	Demographic/Maternal/child health
Haiti	Too high	Avail/Govt support	Maternal/child health
Jamaica	Too high	Avail/Govt support	Demographic
Martinique	Too high	Avail/Govt support	Demographic/Maternal/child health
Netherlands Antilles[a]	Satisfactory	Avail/Some govt support	Maternal/child health
Puerto Rico	Too high	Avail/Govt support	Demographic
St. Lucia	Too high	Avail/Govt support	Demographic
St. Vincent and the Grenadines	Too high	Avail/Govt support	Demographic
Trinidad and Tobago	Too high	Avail/Govt support	Demographic/Maternal/child health
Tropical South America			
Bolivia	Too low	Avail/No govt support	Maternal/child health
Brazil	Satisfactory	Avail/Govt support	Maternal/child health
Colombia[a]	Satisfactory	Avail/Govt support	Demographic/Maternal/child health
Ecuador	Satisfactory	Avail/Govt support	Maternal/child health
Guyana	Satisfactory[b]	Avail/No govt support	Maternal/child health
Paraguay	Too low	Avail/Govt support	Maternal/child health
Peru	Too high (F satisfactory)	Avail/Some govt support	Maternal/child health
Suriname	Satisfactory[b]	Avail/No govt support	Maternal/child health
Venezuela	Satisfactory	Avail/Govt support	Maternal/child health
Temp. South America			
Argentina[a]	Too low	Avail/No govt support	Maternal/child health
Chile[a]	Too low	Avail/Some govt support	Maternal/child health
Uruguay[a]	Too low	Limited	—
Oceania			
Australia[a]	Satisfactory	Avail/Govt support	Maternal/child health
Fiji	Too high	Avail/Govt support	Demographic
French Polynesia	—	—	—
New Zealand[a]	Satisfactory	Avail/Govt support	Maternal/child health
Papua-New Guinea	Satisfactory*	Avail/Govt support	Maternal/child health
Samoa, Western	Too high	Avail/Govt support	Demographic/Maternal/child health
Solomon Islands	Too high	Avail/Govt support	Demographic/Maternal/child health
Vanuatu	Satisfactory*	Avail/Govt support	Maternal/child health

F = fertility. Some countries differentiate in their population policy between population growth and fertility. In these cases, the policy regarding fertility appears in parentheses next to the policy regarding population growth.

(a)Country now has low or declining fertility.

(b)Government fels that more rapid population growth may be needed in the future.

* = Recognizes may need to reduce fertility in future.

— = No policy or unknown.

demographer's page

John Reid is a Professor of Sociology at Howard University, where he is currently involved in the establishment of a Population Studies Center.

The Voting Behavior Of U.S. Blacks

by John Reid

Perhaps the most troubling piece of evidence questioning the picture of a "Democratic America" is the historical voting record of black Americans. For almost a century after Emancipation, every conceivable "trick" was used to ensure that members of that group, among the earliest inhabitants of the nation, would not have access to that most cherished of American rights—the right to vote.

When the Supreme Court voted unanimously, in Brown v. The Board of Education (May 17, 1954), that public-school segregation was unconstitutional, American blacks perceived the decision as a historic turning point that would finally allow their full participation in American society. However, the ensuing resistance to this ruling served only to frustrate this aspiration. There was almost complete defiance on the part of the white power structure and the ensuing struggle resulted in more than a decade of litigation by the NAACP's Legal Defense Fund, then headed by Thurgood Marshall, who was later appointed an Associate Justice of the Supreme Court.

Continued protests by blacks resulted in the passage of considerable federal legislation, most notably, the Voting Rights Act of 1965.[1] In spite of the enactment of this law, blacks continued to be subjected to considerable frustration and every legal maneuver imaginable to minimize their participation in this basic American right. This frustration (which has endured most of the past 100 years) has led to various court decisions and finally culminated in the 1982 extension of the Voting Rights Act for an additional 25 years.

The near-century of resistance, however, proved to be very effective. Even after the passage of the 1965 Voting Rights Act, many blacks, conditioned for generations not to approach the voting booth, still did not rely on the power of the ballot to express their views. Differences in voter participation rates between whites and blacks were still evident in the 1980 Presidential election. However, as Table 1 shows, the 1980 percentage-point difference between the two groups was the smallest ever noted for presidential elections; similarly for Congressional elections. On the other hand, only half of all voting-age blacks actually voted in 1980—compared to 61 percent among whites. To be sure, the failure of Americans in general to express their preferences via the ballot is scandalous, and compares very poorly with other democratic societies. Yet, even given this fact of life, blacks still trail behind whites.

A more detailed examination of voting patterns in 1980 reveals a number of other interesting bits of information about black-white voting differentials.[2]

Age and Sex. At all ages and for both males and females, blacks are less likely to vote than whites. Slightly more than one-half of all black females voted in 1980; just under half of black males did so. The participation rate among young blacks is particularly disturbing. Just one-quarter of all those under 20 voted in 1980; about one-third of those 20-24. Considering that these persons have not been affected by the harassment suffered by their parents and grandparents, one can only conclude that a majority of young blacks are apparently "turned off" from the democratic process. (See Table 2.)

Region. The South, traditionally, has seen a lower rate of black voting than any other region. Given the long history of brutal threats against blacks who merely expressed interest in voting, this should be expected. However, in 1980, almost half of all Southern blacks voted; just under the national average. The Northeast now has the dubious record of having the lowest proportion of black voting of all four regions. (See Table 3.) Many speculations could be offered for this unexpected finding. An overwhelming majority of Northeast blacks reside in central city ghettos. Perhaps the apathy noted among young blacks throughout the nation is present in this population. On

Table 1
Percent Reported Voting, by Race November 1964 to 1980

	Presidential Elections					Congressional Elections			
Race	1980	1976	1972	1968	1964	1978	1974	1970	1966
Total, voting age	157,085	146,548	136,203	116,535	110,604	151,646	141,299	120,701	112,800
Percent voted	59.2	59.2	63.0	67.8	69.3	45.9	44.7	54.6	55.4
White	60.9	60.9	64.5	69.1	70.7	47.3	46.3	56.0	57.0
Black	50.5	48.7	52.1	57.6	58.5	37.2	33.8	43.5	41.7

Note: Total numbers in thousands. Civilian noninstitutional population.

the other hand, the increasing number of black candidates in the South is resulting in a greater awareness of the importance of voting.

Educational Attainment. The more educated the person the more likely that person will register and vote. This positive relationship between these variables has long been observed. In 1980, it remained generally true for whites, with a completed high school education being a benchmark above which participation rates increased fairly rapidly. Among blacks, the relationship is not clear-cut, although here too completing high school is reflected in greater voting. (See Table 4.) Interestingly, among people with less than eight years of school education, blacks are more likely than whites to vote, perhaps reflecting the increased tendency for black Southerners to do so. Of course, these numbers are small. From 1-3 years of high school education to 5 years or more of college, black voting proportions, while increasing with every step of schooling, nevertheless are lower than those for whites. Among college graduates, about 3 out of 4 blacks voted in 1980—not far behind the 80 percent among whites. Clearly, increased educational attainment for blacks, noted in recent decades, is one significant contribution to increased voting participation rates.

Occupation. As would be expected, white-collar workers vote more regularly than do other Americans—white or black. About 64 percent of black white-collar workers voted in 1980 compared to 72 percent among whites. Interestingly, no differences were noted between races among blue-collar and service workers. However, a marked difference exists among farm workers where only about one-quarter of blacks voted. This group is quite small—for both blacks and whites. (See Table 5.) Thus, overall, when it is recalled that 50 percent of blacks and 61 percent of whites voted in 1980, much of the difference, at least when looking at occupation, is accounted for by lower participation among black white-collar workers.

Income. The higher the income the greater the likelihood of voting. The 1980 data reinforce this generally accepted relationship. It holds for blacks as well as for whites. Again, regardless of income, blacks are somewhat less likely than whites to vote. The one

Continued on next page

Table 2
Reported Voting by Race, Sex, and Age, 1980

	White		Black	
Age group	Male	Female	Male	Female
18 to 20 years	36.2	39.1	25.9	24.7
21 to 24 years	43.5	46.5	30.9	36.5
25 to 34 years	55.0	57.7	43.8	49.8
35 to 44 years	64.3	67.2	54.1	62.6
45 to 54 years	69.3	68.9	54.2	62.4
55 to 64 years	71.1	70.8	60.1	68.0
65 to 74 years	73.9	67.2	63.2	66.1
75 years and over	67.2	53.9	54.6	44.7
Totals	60.9	60.9	47.5	52.8

Table 3
Reported Voting by Race and Regions, 1980

	Percent	
Region	White	Black
Northeast	60.4	44.3
South	57.4	48.2
North Central	66.5	61.6
West	59.1	52.7

Table 4
Percent Reported Voting by Race and Years of School Completed, 1980

	Race	
Years of school completed	White	Black
Elementary		
0 to 4 years	26.2	41.2
5 to 7 years	38.4	49.4
8 years	50.9	45.2
High School		
1 to 3 years	46.4	43.1
4 years	60.2	50.4
College		
1 to 3 years	69.1	55.8
4 years	80.0	73.1
5 years or more	83.6	81.0

Table 5
Percent Voting by Race and Major Occupational Group, 1980

	Percent	
Major Occupational Group	White	Black
White collar workers	72.0	63.8
Blue collar workers	48.5	47.2
Service workers	51.8	52.2
Farm Workers	63.1	26.2

demographer's page

Continued from preceding page

exception is among the poorest families – recalling the same situation among the least educated. (See Table 6.)

Based on this brief examination of 1980 voting, it is clear that across all categories, and with some noted exceptions, blacks are somewhat less likely to vote than their white counterparts. While every effort should be made toward increasing voting among young adults, the *problem* is at the grass-roots level, and efforts should be made across the board if black voter participation is to increase in future elections.

Table 6
Reported Voting of Primary Family Members, by Race and Income, 1980

	Percent	
Income	White	Black
18 years and over		
Under $5,000	39.0	41.9
$5,000 to $9,999	50.3	45.2
$10,000 to $14,999	55.9	50.8
$15,000 to $19,999	61.5	54.6
$20,000 to $24,999	68.0	64.0
$25,000 and over	74.6	68.7

Source: U.S. Dept. of Commerce, Bureau of the Census, op. cit., page 66.

These observations do suggest that voting behavior has changed considerably since the period of the Civil Rights' protests. We may hypothesize that for the 1980s, "Civil Rights" regarding voting as conceived in the 1960s is dead as a political issue. Liberal norms and non-middle-of-the-road issues are presently seen in the platforms of most prominent black candidates. Human issues, which presently abound, have probably supplanted Civil Rights, and are much more likely to be translated into 1982 and 1984 election issues. ☐

References

1. See *The Voting Rights Act: Unfilled Goals*, A Report of the United States Commission on Civil Rights (The U.S. Commission on Civil Rights, Washington, D.C., September 1981).
2. Figures come from U.S. Dept. of Commerce, Bureau of the Census, *Current Population Reports*, Population Characteristics, Series P-20, No. 370, Voting and Registration in the Election of 1980.

The Pill: A Status Report on Its 22nd Birthday

This summer marks the 22nd anniversary of the first sale of oral contraceptives in the United States. Today, over 50 million women around the world take the pill, which ranks second among contraceptive methods, after sterilization. As more has been learned about the pill and its effects, it has caused a certain amount of controversy, and in fact pill usage peaked about 1975 in developed countries at about 287 million cycles and is now at about 250 million cycles (due mostly to a major sales drop in the U.S.).

In a new issue of *Population Reports*, the Population Information Program of Johns Hopkins University gives a status report of oral contraceptives after two decades of use, including the risks and benefits of use. Oral contraceptives do bring with them increased risk of circulatory disease, though this is principally among women over 35, especially women who smoke, according to the extensive study of British women by the Royal College of General Practitioners, which found, in results published in 1981, that pill users were four times as likely to die of circulatory disease than nonusers. (This rate is still very low, however, and some researchers have disputed the Royal College's fourfold risk without necessarily disputing the pill-circulatory disease link.)

Other effects, says the Report, have been minimal; so far the pill has not been associated with breast cancer or cancer of the cervix (though it does seem to be associated with liver cancer). It does not seem to affect later childbearing.

And the pill does seem to have certain health benefits. It is associated with a *lower* incidence of certain cancers (endometrial cancer and cancer of the ovaries), and appears to protect against pelvic inflammatory disease and ectopic pregnancy. And in general, it serves as a "protection" against pregnancy, which strictly speaking is a greater life-threatening hazard than the pill, especially in developing countries. For example, among women under 35 in a typical developing country, 60 pregnancy-related deaths are likely to occur in a year among 100,000 women using no contraception, versus 13 among 100,000 nonsmokers using the pill (12 related to pregnancies due to irregular pill use and only one related to pill use itself).

Recommends the Report: "The implications [of these results] for family planning programs is clear: Older women who smoke should be encouraged to use a method other than the pill or to stop smoking. For younger women and nonsmokers, encouraging regular use of [orals] will yield greater health benefits than restricting the availability and use of [orals]." Which is important for a contraceptive method that, when properly used, has a theoretical effectiveness of over 99 percent – more effective than any other reversible method. ☐

To obtain a copy of "Oral Contraceptives in the 1980s," *Population Reports*, contact Population Information Program, Johns Hopkins University, Hampton House, 624 North Broadway, Baltimore, Md. 21205.

USSR's Demographic Realities

Continued from page 1

Low-fertility Russians, High-fertility Muslims

The growth rate of the Soviet population – which now ranks third in the world at 270 million – dropped from 1.8 percent a year in the 1950s to 0.8 percent in 1980, due mostly to falling fertility among Slavic groups made up mainly of Russians. Fertility has been below the replacement level of 2.1 births per woman since the mid-1960s in the Russian Republic, where most Russians live, but still ranges up to 5.8 births per woman in the southern Central Asian republics where most Muslims live. The ethnic Russians' low fertility, combined with mortality that is higher than the Muslims', is expected to reduce the Russian share of the national population from the current 52 percent to 47 percent by the year 2000, according to Feshbach, while Muslim groups increase their share from 17 to 21 percent. "The implications of this must be of major concern for the Russians in the Kremlin," he says, pointing out that 11 of the 14 members of the Politburo, the country's supreme policymaking body, are ethnic Russians.

Net gains to the population of working age which averaged 2.7 million a year in the mid-1970s are due to shrink to 300,000 a year in the mid-1980s. Virtually all the gains will come from the high-fertility non-Slavic regions and there is no assurance that these new workers will move to where the jobs are, says Feshbach. Traditionalistic, mostly rural Central Asian Muslims are reluctant to move even to cities in their own republics, let alone to labor-short areas in the industrialized European Soviet Union and oil fields and coal mines of Siberia.

With almost every able-bodied person already working, few resources are available to expand the work pool, says Feshbach, although "pensioners" – women aged 55 and over and men aged 60 and over – are being encouraged to remain at or return to work.

The armed forces which rely for most of their manpower on 18- and 19-year old conscripts (only 12 percent of men this age escape the required two years of military service) face the prospect of a half-million drop in the supply of 18-year-old males during the 1980s. Feshbach notes that the efficiency of the armed forces, which operate entirely in the Russian language, could also be jeopardized by projections which show that a third of all potential draftees will come from the southern tier of non-Slavic republics by 2000, since "non-Slavic draftees demonstrate a notoriously poor command of Russian."

After years of stalling, Soviet leaders last year addressed these problems with measures to increase birth grants and to pay working mothers partial salaries during maternity leave for the first time, starting in low-fertility regions of the country and leaving Central Asia to last. Even illegitimacy is now being encouraged – single mothers were the only ones to get a boost in the now low monthly child allowances. But the measures are limited, Feshbach points out. Birth grants amount to only $68 for first births and $135 for second and third births, compared to $450 for all births in East Germany, for example. And no concrete steps were announced to improve two of the biggest hurdles to increased fertility among overburdened Russian working women – crowded day-care centers, which can accommodate only 40 percent of preschool children, and housing shortages, which force 20 percent of urban families to share cramped apartments with other families and leave most newlyweds waiting years for their own living quarters.

Rises in Mortality Rates

Also ignored in the new Soviet population policy is the problem of the mortality rise. Official figures on the national "crude" death rate – the only ones still published regularly – show a rise of over 50 percent from 6.9 deaths per 1,000 population in 1964 to 10.3 in 1980. This is more than can be accounted for by the gradually increasing proportion of elderly persons in the population.

At his June 1981 press conference, state planner Alexander Smirnov put the 1980 infant death rate at around 29 per 1,000 live births – a steep rise from the low of 22.9 in 1971 but only slightly higher than the last officially reported rate of 27.9 in 1974. Feshbach contends that the rate is now around 36 by Soviet definition and closer to 40 by international definition which includes deaths occurring within a week of birth to small, premature babies which the Soviets do not count. This is more than triple the current U.S. infant death rate of about 12 per 1,000 live births.

Feshbach also disputes Smirnov's statement that life expectancy for Soviet men and women is about 70 years – the same as the last reported figure for 1971-1972. He cites U.S. Census Bureau Soviet specialist Geoffrey Baldwin, who estimates that life expectancy dropped from 67.0 to 61.9 years for Soviet men between 1964 and 1980 and from 75.6 to 73.5 for Soviet women. This is unprecedented for a developed country and leaves an 11.6-year gap between the sexes which may be the largest in the world.

Reasons for the infant mortality rise, says Feshbach, include an inability to cope with recurring influenza epidemics

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> "I am frequently alarmed by the observation that various types of public health personnel become so engrossed in their immediate day-to-day tasks that they seldom take the time to step back from their offices, clinics, laboratories, hospitals, and classrooms long enough to relate their endless and frustrating daily tasks to the issue which truly creates the priority personal and environmental health problems affecting all of us – the issue which has not been fully accepted for preventive programming by our society and legislative bodies – the issue inadequately addressed by traditional public health programs and textbooks – the cause of most of our environmental health ills: the staggering problem of overpopulation . . . . Overpopulation must be viewed as the number one social, economic, health, and environmental problem facing this nation and the world."
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> *– Larry J. Gordon, in his Presidential Address at the meeting of the American Public Health Association, Los Angeles, Nov. 2, 1981, quoted in the* American Journal of Public Health, *April 1982.*

How Many Children Do Couples Want? It Depends. . .

One important determinant that influences population size is a simple, natural question: How many children do couples want? The answers vary, depending on who and where the couples are, their cultural perceptions, and their needs. And, of course, preferred family size does not necessarily equal the actual family size ultimately attained.

A new PRB Report, *Family Size Preferences: Evidence from the World Fertility Surveys* by Mary Mederios Kent and Ann Larson, examines this question as it pertains to 23 developing countries.* The Report is the fifth in a series on the World Fertility Survey prepared by PRB's Compilation and Analysis of Demographic Data Project. It utilizes responses given on the WFS to formulate some tentative conclusions regarding family size preference and its consequences in those 23 countries:

- Women in the majority of these countries want between three and four children. The range of desired family size is substantial, extending from three for Turkey to seven for Kenya.

- The number of children women want tends to increase with the number they already have, but it is not clear that this indicates a deliberate implementation of their preferences. Less educated and rural women tend to want, and have, larger families, and in some countries religious or ethnic group affiliation has an effect on average number of children desired.

- In most countries, about 50 percent of the women wanted to avoid future births by the time they had three living children. This desire was particularly strong among women aged 35 or older.

- The desire for future children may also be affected by the sex composition of children already born. Women in Korea and Nepal expressed a strong preference for sons, but in most countries a balanced sex ratio was favored.

- Women who wanted no more children were much more likely to be using contraception than other women, suggesting that they were attempting to implement their fertility desires. Also, urban/rural and educational differentials were much smaller among contraceptive users who wanted no more children.

Comparing average number of children desired with the average number of actual living children for women 40-44 years old showed some "excess fertility" in most countries—that is, the number desired was less than the number achieved, usually by one-half to one child in 10 of the countries sampled. (In Kenya, Indonesia, and Paraguay, however, women wanted one to two children more than they actually had.)

Kent and Larson conclude that "not surprisingly, contraceptive use was much higher among women who want to avoid future pregnancies than women who want more children, indicating an attempt to implement their stated fertility preferences." What is interesting, however, is that "the difference in contraceptive use by educational level and urban/rural residence was much smaller among women who wanted no more children than among those using contraception as a child-spacing mechanism, further evidence that a desire for no more children is a meaningful measure and that it provides sufficient motivation to use fertility control within the context of prevailing cultural attitudes and access to contraception." ☐

Single copies of *Family Size Preferences: Evidence from the World Fertility Surveys* by Mary Mederios Kent and Ann Larson are available free from PRB: for mail orders, there is a $1.00 handling charge. Bulk order handling charges are available on request. Order from PRB, Circulation Dept., PO Box 35012, Washington, DC 20013.

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*The countries included in the Report: *Africa:* Kenya; *Asia and the Pacific:* Bangladesh, Fiji, Indonesia, Jordan, South Korea, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Turkey; *Latin America and the Caribbean:* Colombia, Costa Rica, Dominican Republic, Guyana, Jamaica, Mexico, Panama, Paraguay, Peru, Venezuela.

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which leave babies vulnerable to often lethal pneumonia, women's high rates of alcoholism and abortion which increase their chances of delivering weak, premature infants, and poor quality infant formula to substitute for a decline in breastfeeding. Rampant alcoholism, among Slavic males in particular, is undoubtedly a leading factor in the mortality rise among working-age men, he says, and heavy drinking is also on the increase among women and teenagers.

Although the Soviet Union now has twice as many health personnel as the U.S., "the emphasis has been on expansion rather than upgrading facilities and services," Feshbach asserts, "and thus the health-care system is unable to cope with the increasing challenges to the population's health." From a detailed study of the situation which he is now completing, he anticipates little improvement in the near future.

Feshbach also doubts that the new pronatalist policy will do much to avert the growing share of Muslims and declining share of Russians in the Soviet population. Muslim fertility is likely to fall in the long run as younger, better-educated Muslim women living in cities and working in "modern" jobs adopt Russian small-family norms. And even if Russian women were miraculously to increase their fertility next year, this would make no difference in labor and military manpower shortages until well on into the 21st century, he points out. ☐

Additional copies of Feshbach's 44-page *Bulletin* (Vol. 37, No. 2), "The Soviet Union: Population Trends and Dilemmas," can be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, at $3.00 each; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Colored 35mm slides of the *Bulletin's* 22 charts and tables are available at $11.00 per set. Orders of $20 and under must be prepaid. Add $1.00 for handling on orders mailed inside the U.S. For orders mailed outside the U.S., add 25 percent to the cost of items ordered for postage and handling.

Rights of Illegal Aliens Extend to U.S. Public Schooling

The Supreme Court ruled June 15 that illegal-alien children have a right to free public education based on the 14th Amendment guaranteeing "equal protection."

While the applicability of the decision to the other illegal-alien issues is not yet clear, the Court's 5 to 4 decision in the Texas Case of Plyler v. Doe represents an important addition to the legal status of undocumented aliens residing in the U.S. Writing for the Court majority, Justice William Brennan said that "the protection of the 14th Amendment extends to anyone, citizen or stranger, who is subject to the laws of a state . . ." including illegals. While education is not a "fundamental" right, it is sufficiently important to the children themselves and to society to outweigh Texas's uncompelling interests in not providing that education. (The Court dissenters, while agreeing that the illegal-alien children in principle deserved public schooling, argued along constructionist lines that legislation, not judicial fiat, should be the basis of providing this social service.)

The case involved a 1975 Texas state law empowering local school districts to bar illegal aliens from school or to charge them tuition. In 1977, lawyers for illegal-alien children filed suit challenging the law, and the case moved up through the courts, reaching the Supreme Court in 1981.

Arguing its case in lower courts, Texas had contended that its estimated 110,000 school-age illegal aliens would be financially overwhelming. Yet when a 1980 court order forced the state schools to admit such children pending the Supreme Court decision, only some 11,000 of them were identified. This figure has increased to an estimated 20,000 to 30,000, the Texas school commissioner told the *New York Times*, but represents only about 1 percent of the 2.8 million state enrollment. Texas Governor William Clemens has indicated that now that his state has lost its court case, absorbing this level of illegals would not pose problems.

Some officials have expressed hope that the decision might have the positive result of more federal aid. Since states are obliged by the decision to educate illegal-alien children, and since only a few states (mainly in the South and West) receive the brunt of illegal migration, fairness would seem to demand (this theory goes) that the federal government help these states with what would amount to illegal-alien-impact aid.

How the Plyler v. Doe decision applies to the other alien issues remains unclear. The Supreme Court has ruled in the past that illegal aliens in the U.S., though not citizens, nonetheless had the right to due process and are protected by the Fifth Amendment so far as legal rights were concerned. Now the children have the right to elementary public education. The question is whether the rights of illegal aliens will be extended in other directions. Can they legally receive welfare or unemployment compensation, or state-supported medical care?

Opinions differ. Los Angeles County supervisor Deane Dana told the *Wall Street Journal* that it was a logical conclusion to expect illegal's rights to extend into all forms of public welfare. But some legal analysts saw the court decision as a carefully graduated one, and predicted that analogous future cases would be decided on a case-by-case basis. Whereas equal protection cases involving basic rights require strict scrutiny of the laws being challenged, Plyler v. Doe, not involving a basic right, hinged on whether Texas, by excluding illegals from equal protection, was realizing a "substantial" benefit. Justice Brennan concluded that it was not. But if a case in some future, hypothetical area involved marginal benefit to the illegals or great expense to the state, the Supreme Court might well rule that the state was protecting a "rational" interest in not giving equal protection.

Untouched in the whole argument over whether illegals should benefit from schools and other social services was whether illegal-alien workers in fact contribute more to the system (since they are likely to pay taxes of various kinds) than they get out of it (in social services) compared to citizens. There is yet no accepted answer to this question.

Finally, apart from the merits of the Plyler v. Doe case, it should be noted that the Justices' opinions demonstrated an interest in and knowledgeability about the U.S. predicament over illegal aliens. In concurring with the majority, Justice William Powell noted that he was "not unmindful of what must be the exasperation of responsible citizens and government authorities in Texas and other states . . . Their responsibility, if any, in the influx of aliens is slight compared to that imposed by the Constitution on the federal government." And Chief Justice Warren Burger, writing for the dissenters, acknowledged that "were it our business to set the nation's social policy, I would agree without hesitation that it is senseless for an enlightened society to deprive any children—including illegal aliens—of an elementary education." ☐

The Productivity/Employment Connection/Quandary

Productivity—the output of goods or services per worker—is an economic factor that has population implications. One population connection seems almost (but not quite) self-evident: the higher a worker's productivity, the more productive and developed a country's economy will be, and vice versa. Another, less obvious consideration is the relationship between productivity and the size and composition of the labor force; if a machine can do work that used to take 20 workers, what becomes of the 20 workers?

In a new Worldwatch Institute study, senior researcher Kathleen Newland examines economic productivity in its widest extent. Although growth of productivity plunged during the 1970s relative to the 1960s (0.2 percent annually for the U.S. from 1973 to 1981, as opposed to 1.9 percent annually during the period 1963-1973), this does not necessarily mean that the U.S. economy and others have deteriorated or are less efficient. Productivity trends must be viewed, Newland says, in light of major changes in the prices of raw materials (e.g., energy), the rapid growth of the U.S. labor force as a result of the baby boom generation reaching adulthood, and gains in such areas such as pollution control whose costs in terms of strict labor productivity are more than offset by benefits to the quality of life as a whole.

Newland thinks that new technological and managerial advances will inevitably increase productivity, at least in more developed countries. The crucial question rather concerns employment. "Employment is the chief mechanism for in-

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wfs update

Carl Haub, a PRB Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 62 countries, will appear in INTERCOM as results become available.

France

France, one of the developed countries in the World Fertility Survey Program, has recently released a summary of the findings of the WFS conducted in 1978. The survey interviewed men as well as women, and the findings for the Men's Survey will be published in future articles of *Population*.

As one of the many developed countries with below replacement fertility (less than two children per woman), France faces eventual population decline, a fact which is worrisome to the government. The report notes that France has suffered a "loss of demographic standing" in that the country once contained 15 percent of the population of Europe, but that share has since been cut in half. During the 1970s, the total fertility rate fell to a low of about 1.8 lifetime births per woman. Since that time, the TFR has risen to just under two children per woman, a development noted in a number of other industrialized countries. However, in 1981, the birth rate remained exactly at its 1980 level, signaling a possible end to the recent increase in fertility.

The government's present policy is to raise fertility to at lease replacement level, or a little higher. The WFS results indicate that, although French women may desire that many children at some point in their lives, their fertility intentions are often later modified. Of the women interviewed, 78 percent of those who had 2 children stated that they wanted no more. This, in the words of the report, constitutes a "clear rejection of large families."

Although the use of contraception is roughly equal across all age groups, there is a strong shift toward the use of a modern method among younger women. While only about 15 percent of the women 40-44 were using the pill or IUD, 40 percent of those 20-24 were. Nonetheless, withdrawal remains the second most popular method, with about 18 percent of all women relying on it. The survey attributes at least some of the higher use rates among younger women to the increasing practice of cohabitation before marriage. While 32 percent of the women were not practicing contraception at the time of the survey, many of those were either without a partner or were pregnant; of the sample, only 6 percent could be identified as not practicing family planning because they wished to conceive.

As in many other European countries, future fertility trends in France bear watching. It can be anticipated that measures to encourage childbearing will intensify as the possibility of population decline becomes reality. Results of recent fertility surveys, such as the French WFS, indicate that efforts to raise fertility substantially in developed countries will be difficult at best.

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come distribution in modern society," Newland writes. "If productivity improvements take place in a context of sluggish economic growth, the result could be rising numbers of unemployment or underemployed. If bank tellers surrender their places to automatic tellers in order to become computer programmers, their personal output per hour and national productivity will rise. If they leave to become dishwashers or worse, to become unemployed, both they and the economy as a whole will suffer," warns Newland.

Newland does not speculate on what might happen in less developed countries as their economies have to cope with more and more workers entering the labor force. But certainly the experience of such oil-rich yet impoverished countries such as Venezuela, Mexico, and Nigeria shows that sudden eruptions of wealth are not easily spread to the population at large, and can (by increasing prices) even have a deleterious effect. If technological change and productivity impact upon the industrial base of less developed countries while their economies continue to be sluggish, the result could be less employment opportunity, not more, even greater unemployment, and difficulty in distributing whatever wealth is created.

Western industrialized countries, however are initiating new ways to ensure the wealth gets around. To combat the negative effects of technological change, many trade unions have made reduced hours a central part of their efforts to maintain employment. Longer vacations, shorter work weeks, and earlier retirement may help distribute income by distributing employment more widely. Other approaches, such as employee stock ownership plans in the United States allow employees to become small-scale capitalists by buying shares in their own corporations. As a result, the benefits of increased productivity are shared through the distribution of capital.

On the whole, Newland is optimistic that productivity can be increased while at the same time keeping workers in the economic mainstream. Her conclusion: "Policy makers and governments can minimize productivity problems by recognizing the new economic realities, distinguishing between those sources of declining productivity that are symptoms of the transition to a sustainable economy and those that serve no constructive purpose, and encouraging the movement of capital and labor into the most dynamic areas of the economy." □

Copies of *Worldwatch Paper 49* "Productivity: The New Economic Context" by Kathleen Newland are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and checks (made payable to Population Reference Bureau) should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

A Correction

The sample size of the upcoming National Survey of Family Growth Cycle III will be 7,600 women. The number was incorrectly stated in INTERCOM's coverage of the Population Association of America's 1982 annual meeting (see May/June 1982 issue, p. 11). □

world food news

Draft Animals

The most important application of livestock to farming in the Third World is probably the use of animals for draft purposes. In India alone, there are an estimated 80 million animals used for hauling and plowing. A 1979 study by N.S. Ramaswamy of the Indian Institute of Management, in Bangalore, noted that these animals contribute more power (30,000 megawatts) than is provided by power sources using fossil fuel and hydro-energy in the whole of India. Many species are used for draft, pack, and transport purposes throughout the world. The most important are cattle, buffalo, horses, mules, donkeys, camels, elephants, llamas, and yaks. With fossil-fuel costs ever increasing, animal resources continue to play a crucial role.

Despite the widespread use and importance of draft animals, little study has been done concerning their specific requirements and most efficient utilization. Some international development agencies and other groups interested in the use of livestock for draft purposes are beginning research in this area.

One aspect of research is that of determining the basic nutritional requirements of all species of draft animals. The food supply for draft animals is often scanty in many developing countries, and draft animals may compete with humans for available food. To ease this situation, it is desirable that draft animals be fed on by-products that cannot be used for human consumption. Ways of using low quality feeds for draft animals is an important area of research.

Using the correct harness and equipment, matching animals to the equipment they pull, and maintaining draft animals in a fit and healthy condition are all factors influencing the efficiency with which they are used, and are also areas requiring further research. Improved yokes, for example, will enable oxen to pull heavier loads and can also improve the efficiency with which power is transmitted from the the work animal to the implement or cart. Furthermore, there is a need to determine the most efficient animals for different geographic areas, and to ascertain whether small indigenous breeds can advantageously be crossed with larger exotic breeds. Such crosses might improve both draft output and milk yield within the region concerned if environmental conditions are favorable.

While many institutions throughout the world are involved with the study of food animals, the literature on draft animals is still scanty. The first significant research on draft animals since the 1940s is now being done by the Center for Tropical Veterinary Medicine at the University of Edinburgh. Their research is concentrated on the nutritional requirements and work output of draft and pack animals, and on harnessing systems and the effects of load attaching methods on the animals' energy needs. ☐

This article is based on an article by A.J. Smith in *World Animal Review* No. 40, published by the UN Food and Agriculture Organization.

positions/professionals

Positions available in population-related fields are published in INTERCOM without charge, on a space-available basis. Send listings to Positions/Professionals, INTERCOM, PRB, 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

Conference Coordinator, Association for Voluntary Sterilization, Inc., for 18-month assignment to coordinate large fall 1983 conference in Latin America, establish administrative and financial procedures, develop materials and program style, and coordinate travel/hotel arrangements. *Qualifications:* previous proven ability in implementing similar large-scale international conference, excellent organizational skills, familiarity with family planning/health programs. Masters in related discipline and fluent Spanish preferred. *Salary:* $21,000-$25,000. Send resume to M. Riedlinger, AVS, 122 East 42nd St., New York, N.Y. 10168.

Program Officer, Association for Voluntary Sterilization, to develop, monitor, and evaluate AVS's Latin America and Caribbean program. Responsibilities include reviewing proposals, developing contacts with health and family planning professional in LAC region, and conducting field visits. *Qualifications:* Masters degree in public health or related discipline, three years previous experience preferably in the planning and administration of family planning programs in LAC, and strong writing skills. Fluent Spanish a must. *Salary:* $22,000-$25,000. *Contact:* Send resume to M. Riedlinger, AVS, 122 East 42nd St., New York, N.Y. 10168.

Vital Statistics Update

Latest Provisional Statistics for the U.S.: April 1982

	12 months ending with April				
	Number		Rate		
Item	1982	1981	1982	1981	1980
Live births	3,646,000	3,627,000	15.8	15.9	15.6
Deaths	1,957,000	2,002,000	8.5	8.8	8.6
Natural increase	1,689,000	1,625,000	7.3	7.1	7.0
Marriages	2,437,000	2,411,000	10.6	10.6	10.6
Divorces	1,203,000	1,193,000	5.2	5.2	5.2
Infant deaths	41,900	44,600	11.5	12.3	12.8
Population base (in millions)			230.2	228.0	225.5

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 31, No. 4) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Publishers may address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Avenue N.W., Washington, D.C. 20036

NEW INTERNATIONAL ENCYCLOPEDIA OF POPULATION, John A. Ross, editor in chief. New York: The Free Press, 1982. 750 pp. $125.00. ISBN 0-027440. LC 82-2326.

Now you no longer need be afraid to ask. Everything you wanted to know about population can be found in the recently published **International Encyclopedia of Population.** In two volumes, running to 750 pages, 123 contributing authors have set out the state of knowledge on topics ranging from Abortion to Zero Population Growth. Thirteen core entries deal with the major substantive topics. They are supplemented by articles on the 11 most populous countries and the eight major regions of the world. Up to date bibliographies are included.

Ten articles, selected strictly at random, illustrate the scope of articles included and the manner of coverage.

In a brief article on *Actuarial Methods,* John A. Ross (also the editor in chief) describes major methods in nontechnical language and cites some applications. Parker Mauldin gives an overview of the relations between *Fertility and Population Growth* back to 1950 and forward to 2000. Fertility accounts for a total of 50 pages, more than any other topic. The interrelations of fertility with migration and with economic development are treated separately and so are the elements of fertility decline and the determinants of fertility. The *Management and Evaluation of Family Planning Programs* is the Martin A. Goros contribution discussing concepts and methods used. Four other articles deal with family planning. The history of the *Birth Control Movement* is summarized by Jeanne Betsock Stillman.

An overview of *Contraceptive Methods* is given by Sheldon J. Segal and B. Kwaku Adadevoh. The use of contraceptives in developing countries and in the United States, and a more detailed discussion of orals and IUDs round out that section. *Serials and Reference Works* are described by Richard Hankinson. He lists journals devoted primarily to population and others that frequently carry articles in the field. A table gives the frequency of references to each of the leading journals. Population developments in *Bangladesh* are described by Muhiuddin Alamgir.

Surveys have become a major source of demographic information. Related articles deal with sampling methods and with national and international systems for data collection. Special attention is given to the World Fertility Survey and to the U.S. Census. Michael Teitelbaum reviews *Population Policy in the United States. North Africa and Southwest Asia* is one of the eight major world regions singled out for special treatment, in the article by Karol K. Krotki.

An extensive array of cross-references throughout the text and a 50-page index greatly facilitate the use of these volumes. The index includes not only names and subjects but also acronyms. A topical outline of the table of contents helps locate matters of special interest. The listing of contributors will be helpful in identifying the authors, especially those who are relatively new to the field.

—Conrad Taeuber

SEX: The Facts, the Acts and Your Feelings, by Michael Carrera. New York: Crown Publishers, Inc., 1981. 448 pp. $19.95. ISBN 0-517-54498-9. LC 81-1215.

Sex is a comprehensive, factual and easy-to-understand book on sexuality and sex. In the author's words, it "... seeks to deal with whole people—thinking, feeling people who need, have and seek relationships. Genital expression may play a part in some of these relationships, but sexuality plays a part in all of them."

The book is divided into three parts: "Facts and Feelings" with basic information about all aspects of sexuality; "Acts and Feelings" with descriptions of specific sexual acts; and "A-to-Z Fact Index" with a complete glossary and index to terms used in the book. Each chapter within those sections is divided into the various *dimensions of sexuality*—facts, myths, age, feelings, relationships, culture and religion, problems—as they relate to the chapter's subject. Carrera also uses within each chapter a question-and-answer format in addition to the text to deal with specific facts, myths and problems.

Sex: The Facts, the Acts and Your Feelings is an excellent resource on sexuality, suitable for parents and educators of all types.

—Patricia Cancellier

REPRODUCTIVE BEHAVIOR: Central and Eastern European Experience, by Henry P. David and Robert J. McIntyre. New York: Springer, 1982. $24.50. ISBN 0-8261-2480-1. LC 81-9282.

This is one of those rare books that truly has "something for everyone" and should be of interest to a wide variety of readers, not just those with an interest in Eastern Europe.

For the demographer, social scientist, and economist, there is a veritable gold mine of data on all the countries of Eastern Europe (which were also covered in David's recent *Population Bulletin,* "Eastern Europe: Pronatalist Policies and Private Behavior"), with an astonishing set of more than 1,000 references, many of them esoteric or even unknown in the West. For the policymaker and political-economic planner, from Guyana to the Ivory Coast, there are lessons from pronatalist societies attempting to encourage fertility (and, conversely, antinatalist policymakers can benefit from the experience of countries attempting to balance individual human rights with the collective requirements of society). For the family planning program director and family life educator interested in comparisons with other industrialized nations, the discussion of prudish sex education classes in, for example, Poland, is as dismaying as it is familiar. For those interested both in the role of women and the broader issue of balancing human rights with social goals, the book gives a great deal of attention to the "woman question" not only in a chapter specifically devoted to the topic, but throughout the volume (which is, incidentally, divided into two sections, the first an overview of demographic trends, population policies, abortion policies, and pronatalist incentives, the second detailing these themes in country-specific chapters).

Socialist theory expected fertility to remain at high levels as the ownership of the means of production was placed in the hands of the proletariat, yet rapidly declining fertility has caused the socialist governments of Eastern Europe to resort to a broad range of pronatalist policies, ranging from severely restricted access to abortion and contraception; to substantial cash incentives; to policies designed to "take the special employment needs of women caring for younger children into account" (e.g., part-time positions, working at home, etc.).

Despite these seemingly generous efforts, the difficult questions concerning women's roles at work and at home have not been answered. Extended withdrawal from the labor force by mothers but not fathers "weakens the actual position of women in the labor market," and women are never able to catch up. At home, meanwhile, women are still expected to maintain traditional roles while pursuing nontraditional work outside (lest Westerners harbor the illusion that Ivan does the dishes).

Finally, there are a few examples of repeal of liberal abortion policies to which American policymakers can refer. The alarming rise in maternal and infant deaths that followed such restrictions in Romania should give one pause before considering similar measures in other countries. In Romania's case, short-term increases in fertility were purchased at a heavy social cost.

—Emily C. Moore